South Hills School of Business & Technology

SouthHills
School of Business & Technology

CATALOG 2024-2025

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Notice of Non-discrimination

South Hills School of Business & Technology is committed to a policy of nondiscrimination and equal opportunity for all persons regardless of race, religion, color, age, gender, sexual orientation, national origin, disability, marital status, creed, genetic information, status as a veteran of war, or any other protected status, in employment, in admissions, and in educational programs and activities.

South Hills School of Business & Technology does not discriminate on the basis of sex and prohibits sex discrimination in any education program or activity that it operates, as required by Title IX, including in admission and employment.

Prohibited sex discrimination includes sexual harassment (unwelcome sexual conduct of various types). The complete Sexual Misconduct Policy may be accessed at www.southhills.edu/disclosures or to request a hard copy please email titleixcoordinator@southhills.edu. South Hills' nondiscrimination policy is in accordance with Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975, RCW 49.60.030 and their implementing regulations. Questions regarding Title IX may be referred to the:

Title IX Coordinator: Natalie Lombardo-Beaver Director of Education & Regulatory Affairs 480 Waupelani Drive State College, PA 16801 (814) 234-7755 nbeaver@southhills.edu

Location . . .

State College (Main Campus)

The main campus of SHSBT is located at 480 Waupelani Drive, State College, on a six-and-a-half-acre lot overlooking the mountains on one side and State College on the other. The school is easily reachable from Lewistown, Bellefonte, Philipsburg, and Huntingdon areas.

Altoona (Branch Campus)

The Altoona branch campus is located at 541 58th Street, Altoona, 48 miles from State College. It is close to the Logan Valley Mall and other eating and retail establishments. The school was established in 2001 when it was purchased from the Altoona School of Commerce.

History . . .

SHSBT is a co-educational, postsecondary institution serving the Central Pennsylvania area.

SHSBT is the product of necessity, creativity, economics, dreams, and hard work. S. Paul and Maralyn Mazza founded the school in 1970. Starting with only seven students in the first class, it is now training hundreds of students each year. This strong growth is attributed to the founders' philosophy that all decisions are made on the basis of what's best for the students.

From 1970 to 1982, SHSBT found its home in State College. In August 1982, SHSBT moved to larger quarters, a former elementary school building, in Boalsburg. In January 1989, SHSBT returned to State College—its original home.

From 1976 - 2017, SHSBT received national accreditation as a business school through the Accrediting Council of Independent Colleges and Schools (ACICS). In 2017, SHSBT received national accreditation through the Accrediting Commission of Career Schools and Colleges (ACCSC).

In 1980, SHSBT was granted approval to award the Associate in Specialized Business (ASB) degree in five program areas. In 1997, approval was granted to award the Associate in Specialized Technology (AST) degree. The school currently offers one ASB degree (Business Administration – Management & Marketing) and five AST degrees (Diagnostic Medical Sonography, Information Technology, Software Development & Programming, Graphic Arts, and Engineering Technology).

In 1996, the school expanded its State College facilities. The expansion allowed for a larger library as well as additional classrooms and a student commons area.

The Diagnostic Medical Sonography program was added in 1996. Two additional sonography diploma programs were added in 1998 for those students entering with advanced standing.

In 1997, the Engineering Technology program was added to the program offerings and granted AST degree status in 1999. In 2006, the Graphic Arts AST degree program was added to the program offerings and in 2007, the ASB degree program Criminal Justice. The Medical Assistant ASB degree program was added in 2010. The Software Development & Programming AST degree program was added in 2019 and included our first hybrid online classes. In 2020, the Medical Coding & Billing diploma program was added as our first predominately online program. In 2023, the Administrative Professional online/hybrid diploma program along with the Medical Assistant online/hybrid program were added.

In 2001, the Altoona campus was opened when SHSBT purchased the former Altoona School of Commerce. Altoona was granted approval to offer the ASB degree in Business Administration – Accounting, Business Administration – Management & Marketing, and Medical Assistant programs and the AST degree in the Information Technology, Software Development & Programming, and Health Information Technology programs. Currently the Altoona Campus offers the AST degree in the Information Technology and Software Development & Programming in addition to the diploma program of the Medical Assistant online/hybrid program.

Under the direction of S. Paul Mazza III, SHSBT is serving a diverse population of recent high school graduates and returning adults. Diploma as well as ASB/AST degree programs are offered. The total faculty and staff at the Main Campus is 63. The faculty and staff at the Altoona Campus number 8. The total population at the Altoona Campus is 48 and State College is 215. These numbers are as of August 24, 2024.

Facilities and Equipment . . .

State College

The Main Campus building has 33,000 square feet of classroom and office space. The 19 classrooms (including a large lecture room), the library, the cafeteria, and the faculty and staff offices are all airconditioned. Free parking is available.

School equipment has been selected to provide effective training on all types of machines that are recommended in today's workplace. Our computer rooms are equipped with over 110 networked computers with Internet access. Specialized equipment is used in the Diagnostic Medical Sonography, Medical Assistant, and Engineering Technology programs.

The typical classroom accommodates up to 20 students and the typical lab classroom accommodates up to 15 students.

SHSBT added additional space in the fall of 2000. In 2007, the additional space was moved to 3081 Enterprise Drive in State College, approximately two miles from the main campus.

The additional space is utilized by the Diagnostic Medical Sonography program for specialized equipment application courses.

Altoona

The Altoona campus is approximately 9,340 square feet, containing seven classrooms, one break-room area for students, a student resource center for student use, and administrative and faculty offices. There is a school parking lot that provides adequate free parking.

Over 30 computers with Internet access have been installed for student use at the Altoona campus.

The typical classroom accommodates up to 15 students and the typical lab classroom accommodates up to 10 students.

Program Integration . . .

Students have the opportunity to complete the following specialized associate degree programs at the Altoona campus: Information Technology, and Software Development & Programming. The students also have the opportunity to complete the following diploma programs at the Altoona campus: Medical Coding & Billing, and Medical Assistant.

Students who are off-track or part-time may be required to complete their program at another campus if the program does not have a subsequent start.

Mission . . .

The mission of SHSBT is to prepare students for jobs in the community. In addition, we offer qualified individuals the means to start and the encouragement to continue the lifelong growth process through higher education. SHSBT has the obligation to create an educational atmosphere that will not only foster the highest standard of excellence in all students but also help those students to develop an awareness of social responsibility and ethical behavior.

In order to accomplish this goal, SHSBT established the following objectives: (1) the recruitment of secondary school graduates who are qualified to meet the educational standards of the school; (2) the training of students in the vocational skills required for an entry-level job; (3) the instilling of attitudes which will be helpful in obtaining and retaining a job; (4) the placement of students in jobs that fit their talents, skills, maturity and experience by screening each graduate and giving specific aid in techniques for interviewing and applying for a job; and (5) the continuing evaluation and assessment of employers in the area which the school serves.

Our faculty and staff members are aware of these objectives and they conscientiously strive to help each student accomplish them. In furtherance of these objectives, the educational standards at SHSBT are maintained at a consistently high level in order to challenge the student and produce a graduate that is dependable and well prepared.

Through a continuous evaluation of the school by the faculty, staff and students, SHSBT prides itself in being a adaptable educational institution, constantly striving to meet the changing needs of business and industry.

SHSBT also takes great pride in the caring attitude of the faculty and staff members. This attitude is imparted to the students with encouragement, dedication and a real interest in each student's wellbeing and academic progress.

Students at SHSBT are not just names or numbers. They are individuals with needs, talents and skills.

Philosophy . . .

SHSBT was founded in 1970 based on the philosophy that each student, regardless of race, color, sex, age, religion, national origin, marital status, sexual orientation, ancestry, political belief, status as a veteran, or economic background is entitled to develop to his or her fullest potential. Based on this philosophy, the school accepts students from all walks of life.

Advising . . .

Personal attention and advising are an important part of your SHSBT experience. We care about you and your concerns when you join our school. Your time at SHSBT should be rewarding —time dedicated to the acquisition and sharpening of skills and knowledge. The problems which come up should not be yours alone. For this reason, the faculty and staff make themselves available to you.

Advising and/or referral are available in the following areas:

Financial. Financing your education is another crucial area that makes your education possible. Our Financial Aid staff is available to assist you with your application for grants and loans, and the Bursar can answer any questions you have about your finances at SHSBT School.

Academic. Students having concerns about their major (program) may visit the Academic Affairs Officer at main campus, their advisor or the Director of Education for assistance.

Personal. Staff members are available for you to talk to about personal concerns or problems and to provide referral information. Students should see an Academic Affairs Officer or the Director of Student Services at the main campus and the Campus Director of Education or Academic Affairs Officer at the Altoona campus.

Career Services . . .

SHSBT offers career assistance to all SHSBT graduates without cost to the graduate or employer.

Our Career Services staff makes every effort to identify the qualities and skills of each graduate and to recommend graduates for positions requiring such attributes. SHSBT cannot guarantee employment to graduates, but every attempt is made to help the graduate find a position that will offer both personal satisfaction and the greatest opportunity for growth.

The Career Services staff provides job search assistance to students seeking full-time, part-time, and temporary employment. Job openings and employer relations are developed through on-campus career and internship fairs, outreach efforts by our staff, and by the employers' ability to submit a job opening through the school's website.

The State College and Altoona Career Services staff provides/shares job referrals and internship requests. In addition, both locations utilize a program advisory committee for advice on issues such as curriculum development and how that relates to addressing the current employment needs of the business community.

Application . . .

If you are interested in SHSBT, you should apply for admission as early as possible. You may start the application process by submitting a pre-application online or by calling the Admissions office.

The first step in the application process begins with a Career Planning Session (personal interview) with an Admissions Representative. During the personal interview, the Admissions Representative will discuss your career interests to help you choose a program of interest. You will also receive a tour of the school, complete the entrance assessment and meet with a Financial Aid representative.

Admissions requirements are as follows:

- High school diploma or equivalent or
- Successful completion of entrance assessment*
- Application
- Completion of additional programmatic admissions requirements. See specific program admissions requirements that follow.

*Entrance assessment minimum score requirement:

Program	Verbal	Quantitative
DMS, DMP, DPP	340	310
MA	265	265
GA, MCB	265	N/A
All other programs	265	265

Completed applications are reviewed by the Director of Admissions or School Director upon receipt. Acceptance is based on the requirements listed above. Upon acceptance, you will then complete an enrollment agreement.

Registration Fee

A $75 registration fee will be assessed at the time the enrollment agreement is signed. The registration fee will be refunded in full if the applicant cancels their enrollment agreement within five (5) days of signing the enrollment agreement or if the applicant fails to meet the school's admissions requirements and is not accepted for enrollment. In either case, all monies will be refunded no later than three (3) days after cancellation/denial.

Additional Admissions Requirements

Diagnostic Medical Sonography Programs

Acceptance into the DMS program is competitive and is not on a first-come, first-serve basis. Applicants of the DMS program should have a high school or post-secondary educational background that is strong in academic math and science such as biology, trigonometry and physics.

Prospective students will be granted an interview with the Director of Admissions upon successful completion of the following admissions criteria:

- Passing score on Wonderlic entrance assessment
- Applicants must have one of the following
    - High-school transcript with a minimum cumulative non-weighted GPA of 2.85
    - A minimum math SAT score* of 500
    - College level math in which a C or higher was earned.
- Criminal background check
- Three references OR two letters of recommendation (guidelines provided by Admissions Representative)
- Resume
- Transcript for post-secondary education program (if applicable)
- Those scoring higher that a 3 on the Career Planning Session will schedule an Interview with Director of Admissions
- Attendance at one of the Diagnostic Medical Sonography Information Sessions (details provided by Admissions Representative).

Upon completion of a second interview with the Director of Admissions, a decision will be made to accept, deny or defer based on an evaluation of the application and interview.

SAT scores are strongly recommended for all applicants to the Diagnostic Medical Sonography AST degree program.

Documentation of criminal history from the Pennsylvania State Police Access to Criminal History is required for final acceptance into the program, as well as a child abuse clearance. The cost of these background checks is included in the course charges. An FBI background check is required for applicants who have not resided in Pennsylvania for the previous two consecutive years prior to enrollment. Cost of the FBI background check is variable and is the responsibility of the student. Additional criminal record and child abuse checks will be performed as a condition for internship placement.

Applicants are asked to declare all convictions or pending criminal charges for any felony or misdemeanor. Conviction of certain offenses will result in ineligibility for this program and for credentialing examinations.

Convictions include being found guilty, entering a guilty plea, or pleading no contest (nolo contendere) to any felony or misdemeanor offense.

Any felony conviction will bar admission and will be grounds for dismissal from the Diagnostic Medical Sonography (DMS), Diagnostic Medical Sonography Professional (DMP), and Diagnostic Medical Sonography Professional Plus (DPP) programs.

Any misdemeanor conviction will be reviewed to the extent it relates to the applicant or student's eligibility for credentialing examinations and employment in the field of diagnostic medical sonography. Such review will consider the nature and gravity of the offense, the time since conviction, any discrepancies between an applicant's background check and self-report, and any current student's failure to self-report.

Misdemeanor convictions that will bar admission to or result in dismissal from the DMS, DMP, and DPP programs include, but are not limited to:

- Crimes involving violence against the person;
- Crimes involving possession with intent to deliver or sell illegal drugs;
- Crimes involving illegal use or possession of weapons;
- Crimes involving dishonesty.

If a positive record is obtained for any misdemeanor conviction not listed above, the applicant must apply for the ARDMS predetermination of eligibility.

Students in the DMS, DPP, and DMP programs are required to report any arrest and/or conviction that occurs while they are enrolled at SHSBT to their program coordinator (See Code of Conduct for the Criminal Justice and Medical Programs).

Applicants with Previous Degree or Diploma

Two diploma programs exist for the purpose of accommodating applicants with specific educational backgrounds. Interested applicants should consult with one of our Admissions Representatives to determine which program best meets their needs and educational objectives.

Students may be eligible to enter the DMP program when it is a component of a Bachelor's Degree program at another institution. This is subject to a formal agreement between SHSBT and the articulating institution, and must be approved on an individual basis. Such students must complete their B.S. degree in order to receive their ARDMS® registry examinations.

SHSBT Student Transfer

If a current SHSBT student wishes to transfer into the DMS program, provided there are seats available, the student must speak with an Admissions Representative to initiate the DMS application process. Additional terms will most likely be required. Each applicant is reviewed on an individual basis and not guaranteed a seat in the program. See application process above.

Students in the DMP and DPP program must earn a "C+" or better in all classes. Students who receive one or more grades below "C+" in any course will be withdrawn from the program and may not apply for reinstatement. The student may, however, be eligible to transfer to another program.

See the DMS Student Handbook for more information on the reapplication policy.

Additional Admissions Requirements
Graphic Arts Program

In addition to the general admissions requirements for the school, the following requirements specifically apply to the Graphic Arts program. During the interview, applicants to the Graphic Arts program will discuss their past and present interest in art and design and why they feel they would be an appropriate candidate for the program. Our goal is to see that the students entering this program are artistically inclined and have a natural, ongoing interest in art and design.

Artwork Submission Guidelines
All applicants must submit their artwork digitally for evaluation by our Graphic Arts Instructors. We suggest submitting at total of 10-15 pieces of artwork for review. Ideal submissions include drawings, paintings, page layout designs, posters, package designs, photography, and 3D artwork. Other forms of fine art are also welcome. Please note that anime is not accepted.

Additionally, each applicant must create and submit a self-portrait in the art medium of their choice.

Digital Submission Requirements:
Artwork must be submitted in a digital format (PDF, JPG, or photographs of your art). Please upload your artwork to an online file repository such as Dropbox, OneDrive, or another similar service. If necessary, a USB thumb drive may be provided to the South Hills Admissions representative.

Laptop and Adobe Creative Cloud Requirements:
Students enrolled in the Graphic Arts program must sign an attestation confirming they will purchase or already own an Apple laptop that meets the required specifications before the start of the program. The specifications for the Apple laptop will be provided upon enrollment.

Graphic Arts students are also required to sign an attestation confirming they will subscribe to Adobe Creative Cloud from the first term until the program's conclusion. Information on obtaining a student subscription to Adobe Creative Cloud will be provided by the program coordinator on the first day of the program.
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Additional Admissions Requirements
Information Technology Program
Software Development & Programming Program

In addition to the general admissions requirements, applicants for the Information Technology and Software Development & Programming programs will be required to complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Applicants enrolled at both campuses are also required to sign an attestation to verify that they will purchase or already own a laptop with the required specifications and have available internet access. Laptop specification requirements for State College and Altoona students and laptop/desktop specification requirements are furnished when they enroll in the program.

Additional Admissions Requirements
Medical Assistant Program

In addition to the general admissions requirements, the following requirements specifically apply to the medical programs.

Documentation of criminal history from the Pennsylvania State Police Access to Criminal History is required for final acceptance into the program, as well as a child abuse clearance. The cost of these background checks is included in the course charges. An FBI background check is required for applicants who have not resided in Pennsylvania for the previous two consecutive years prior to enrollment. Cost of the FBI background check is variable and is the responsibility of the student. Additional criminal record and child abuse checks will be performed as a condition for internship placement.

If a positive record is obtained, the applicant will be advised as to the course of action to be taken by the school/internship site, which may result in disqualification from the program, depending on the nature and severity of the offense(s). Two misdemeanors or one felony, will disqualify the applicant from the program as it severely impedes the opportunity for internship, employment, and credentialing opportunities. Under the Older Adult Protective Services Act, a person may be prohibited by law from employment in certain medical occupations.

In addition, applicants for the Medical Assistant program will be required to complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Applicants are also required to sign an attestation to verify that they have access to a computer capable of running a modern web browser, such as Chrome or Safari and have available internet access.

Additional Admissions Requirements

Administrative Professional Program, Business Administration—Management & Marketing Program, Engineering Technology Program, and Medical Coding & Billing Program.

In addition to the general admissions requirements, applicants for the Medical Coding & Billing program, Administrative Professional Program, Engineering Technology Program, and the Business Administration—Management & Marketing program will be required to complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Applicants are also required to sign an attestation to verify that they have access to a computer capable of running a modern web browser, such as Chrome or Safari and have available internet access.

Hours . . .

Classes are scheduled Monday through Thursday between 7 a.m. and 9 p.m. Individual schedules will vary from term to term. Core sonography courses beginning in the spring term (6th term DMS, 3rd term DPP and 2nd term DMP) operate on a 5-day per week schedule.

Common Hour . . .

Common hour is shared time across the institution for students and faculty to coordinate events, meetings and/or tutoring sessions if needed. Common hour occurs every day and also serves as the lunch hour.

Financial Aid . . .

The following information describes the types of financial aid available to those who qualify. Please call our Financial Aid office so that we may answer your questions and make an appointment to assist you with your financial aid package. All questions regarding financial aid should be directed to the Financial Aid office at SHSBT School.

Academic Year. For financial aid purposes, an academic year consists of three-quarter terms (10-12 weeks in length). A full-time student must complete at least 12 quarter credits per term or at least 36 quarter credits per year.

Please keep in mind dropping/adding courses and changing programs during enrollment may affect financial aid eligibility.

Applying for Financial Aid. Students may be eligible for grants and loans provided he/she file a Free Application for Federal Student Aid (FAFSA). Complete the FAFSA online at studentaid.gov.

Filing Dates FAFSA maybe applied for by earliest of fall each year.

FSA ID (Federal Student Aid ID). The FSA ID is created at studentaid.gov. The FSA ID is comprised of a username and password and can be used to login to certain Federal Student Aid websites, such as the Free Application for Federal Student Aid (FAFSA®).

The security of the FSA ID is important. It can be used to:

- Electronically sign Federal Student Aid documents,
- Access personal records, and
- Make binding legal obligations.

Dependent students will need a parent to obtain an FSA ID to sign the student's FAFSA. The parent can use the same FSA ID for multiple children.

General Correspondence. The Financial Aid office will correspond with students via his/her email account. It is important that each student access his/her school e-mail account to stay informed on the latest financial aid information.

FINANCIAL AID AVAILABLE *FOR THOSE WHO QUALIFY

Title IV Aid

Federal Pell Grant. Pell grants are awarded to students who demonstrate financial need as defined by the Federal government. Grant amounts are determined by the student's "Student Aid Index" (SAI), which is indicated on his/her Student Aid Report (SAR).

Eligibility requirements include:

- Having earned less than a Bachelor's degree.
- Having graduated from high school or earned a GED.
- Enroll at least half-time in a program of study.

- SAI is within eligible ranges.
- Maintaining satisfactory academic progress.

William D. Ford Federal Direct Loans. The following Direct Loans are made through the William D. Ford Federal Direct Loan (Direct Loan) Program, which is administered by the U.S. Department of Education (USDE). The lender is the USDE and will be throughout the life of the loan.

Direct Subsidized Loans. These loans are awarded on the basis of financial need. No interest is charged while a student is enrolled at least half-time.

Direct Unsubsidized Loans. These loans are not based on financial need. Interest is charged during all periods, including while the student is in school and during grace and deferment periods. The student may choose to defer interest payments while in school and the interest will be added to the unpaid principal amount of his/her loan. This is called "capitalization" and this could substantially increase the total amount of repayment. Making interest payments while in school are advantageous and will save the student money overall.

Direct Subsidized and Direct Unsubsidized Loans are made to eligible students attending school at least half-time in a program of study that are making satisfactory academic progress. Repayment begins six months after graduation or six months after the student ceases to be enrolled at least half-time in a program of study.

Before a loan will be certified by the Financial Aid office, the student must sign and return an enrollment agreement indicating his/her intention to attend school, complete a disclosure statement, entrance counseling and a master promissory note (MPN). Also, the student cannot be in default and must not have reached his/her aggregate loan limits (see Loan Limits Table).

Entrance counseling and MPN completions should be done by going to http://www.studentaid.gov and should be signed using the same FSA ID as used to sign the FAFSA.

The actual loan amounts and types of loans (Subsidized, Unsubsidized or a combination of both) that students are eligible to receive each year are determined by the Financial Aid office, based on such factors as the cost of attendance, other financial aid and the length of a program. The actual amounts that a student is eligible to borrow may be less than the maximum amounts shown (see Loan Limits Table).

Loan Limits Table

Annual Loan Limits for Direct Subsidized and Direct Unsubsidized Loans			
Level	Completed Credits	Dependent Undergraduate Students	Independent Undergraduate Students*
1st Year	0-35	$5,500 (maximum $3,500 subsidized)	$9,500 (maximum $3,500 subsidized)
2nd Year	36-71	$6,500 (maximum $4,500 subsidized)	$10,500 (maximum $4,500 subsidized)
3rd Year	72-134	$7,500 (maximum $5,500 subsidized)	$12,500 (maximum $5,500 subsidized)

*Dependent students whose parents are denied a PLUS Loan may be eligible to receive the independent undergraduate loan limits.

Aggregate Loan Limits: Maximum Total Outstanding Loan Debt	
Dependent Undergraduate Students	Independent Undergraduate Students
$31,000 (maximum $23,000 subsidized)	$57,500 (maximum $23,000 subsidized)

Direct Subsidized and Unsubsidized Loans have a fixed interest rate. Fixed rates are a set rate for the life of the loan. Please refer to http://www.studentaid.gov for current rate information.

The student receives a disclosure statement that gives specific information about any loan that the school plans to disburse under his/her MPN, including the loan amount and loan fees. The disclosure statement also explains how to cancel the loan if the student doesn't want it or choses to cancel a portion of it.

Loan monies are to be used only to pay for educational expenses at the school that is certifying the loan. Education expenses include such school charges as tuition, fees and such indirect expenses as books, supplies, equipment, living expenses, dependent child care expenses, transportation, and rental or purchase of a personal computer.

PLUS Loans These loans are also administered through the USDE and are available to parents of dependent undergraduate students to meet educational costs. Parents may borrow up to the cost of attendance minus all other financial assistance that the student is awarded. Eligibility for a PLUS Loan is based on credit worthiness of the parent borrower.

Interest is charged during all periods. For current interest rate and origination fee information, refer to http://www.studentaid.gov . Repayment begins 60 days after the funds are fully disbursed, and the repayment term is set to 10 years. Parents have the option of deferring repayment on Parent PLUS Loans while the undergraduate student on whose behalf they borrowed the PLUS Loan is in-school and for a six-month grace period after the student graduates or drops below full-time enrollment.

PLUS applications should be completed online at www.studentaid.gov and should be signed with the FSA ID the parent used to sign the FAFSA. As well, parents must complete the PLUS Loan Estimation Worksheet (signed and dated) and return to the Financial Aid office as this is an additional requirement of PLUS loan processing. This form may be requested directly through the Financial Aid office.

Loan Disbursements. Loan proceeds are sent directly to the Bursar's office at SHSBT and are credited to the student's account. Generally, two or three disbursements will be made for each approved loan. Proceeds cannot be credited to the student's account without the student's/parent's signed authorization and until the loan funds are received by the school. Students will be notified when the funds have arrived or the loan has been disbursed to his/her account.

The amount of loan proceeds retained by the school will depend on the amount of the loan, the amount owed by the student minus grant (s), if applicable, and the number of disbursements. If a student account is overpaid, the excess will be given to the student/parent within the time period mandated by Federal law.

The student or parent borrower has the right to cancel or reject all or part of the loan within 30 days from the date the loan proceeds were credited to the student's account.

If a student withdraws from school and a Direct Subsidized, Unsubsidized, or PLUS Loan has been disbursed on behalf of the student, a Federally mandated calculation must be done to determine how much of the loan proceeds may be retained by the student and how much must be returned to the lender (USDE) by the school (See Refund Policy).

Sources for Title IV Aid:

1. Entrance Counseling Guide for Direct Loan Borrowers produced by USDE
2. www.finaid.org
3. www.studentaid.gov

State Aid

Pennsylvania Higher Education Assistance Agency

Pennsylvania State Grant Program

To be considered for a Pennsylvania State Grant you must meet the following criteria:

- Have earned less than a Bachelor's degree.
- File the FAFSA before the state deadline (see below for filing
- dates).
- Complete a Pennsylvania State Grant Application (www.pheaa.org)
- Demonstrate exceptional financial need.
- High school graduate as stipulated in the PA State Grant Law.
- Be enrolled in a two- or three-year program.
- Be a resident of Pennsylvania as defined by PHEAA.
- Be attending at least half-time.
- Maintain satisfactory academic progress as defined by PHEAA.
- Not be in default or pending default on an educational loan.
- Not received the maximum number of PA State Grants permitted.
- Are of satisfactory character (for example, not incarcerated)

For further eligibility information, refer to www.pheaa.org.

Filing Dates For incoming students, present students, and transfer students who have not previously applied for or received a Pennsylvania State Grant, the deadline to file the FAFSA for state grant award consideration for the fall term is August 1. The FAFSA may be filed as early as October 1. For example, a student attending 2025-2026 academic year may file their FAFSA as early as October 1, 2024.

For students who are present recipients of a Pennsylvania State Grant or those transfer students that have previously received a Pennsylvania State Grant, the deadline to file the FAFSA for state grant award consideration for the next academic year beginning the fall term or summer internship is May 1.

State Grant Eligibility for a Transfer Student If a Pennsylvania State Grant was awarded at a prior institution, requirements for meeting academic progress standards must be met before a grant can be awarded.

- Student must submit an official academic transcript from the prior college(s) attended.
- Semester and quarter credits will be evaluated by the Financial Aid office to determine academic progress.

Veteran's Funding

Any individual requesting Veteran's educational funding is required to provide a certificate of eligibility for entitlement to educational assistance under Chapter 31 or 33 (a "certificate of eligibility" can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website e-Benefits, or a VAF 28-1905 form for Chapter 31 authorization purposes) by the first day of class.

For any student using Chapter 33 Post 9/11 GI Bill® or Chapter 31 Voc-Rehab benefits, SHSBT will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from Veterans Affairs' (VA) under chapter 31 or 33.

"GI Bill®" is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill/.

Scholarships

Academic Scholarship. SHSBT will offer a maximum of seven new scholarships each school year. There are five scholarships awarded at State College and two at Altoona. The scholarship is valued at 25 percent of the gross cost of tuition. It is given to those students who demonstrate economic hardship and would benefit from this scholarship. Scholarships are granted without regard to race, color, creed, sexual orientation, religion, age, disability or national origin.

A student meeting the following qualifications for the scholarship must submit a letter of application to the Scholarship Committee for review. The application deadline is December 20th. Applicants will be notified of the committee's decision within thirty (30) days of the application deadline.

Qualifications for the Academic Scholarship are as follows:

1. At the time of application, students must be enrolled full-time in a diploma or specialized degree program of study.
2. Students must have completed a minimum of one full term of study at the time of application.
3. Students must have a minimum 3.0 cumulative grade-point average in each term.
4. The student's financial records must prove financial need which is determined by the Scholarship Committee.
5. Students must have completed a FAFSA in a timely fashion and submitted forms for any applicable state and federal grants.
6. Submit a formally typed letter of application (1-2 pages) that indicates the applicant's name, program and year of study, educational and career goals. The applicant should state how receiving the school scholarship would benefit him/her in his/her pursuit of the stated goals. Other information pertinent for review is welcome in the application letter.

The scholarship will be credited retroactively to the first term of the school year in which the scholarship is granted. It will be credited to the recipient's account on a term-by-term basis through graduation when eligibility is maintained. The school scholarship will be permanently forfeited when eligibility is lost.

Maintaining the Academic Scholarship:

1. Maintain a minimum 3.0 cumulative grade-point average each term.
2. Maintain full-time enrollment status.
    a. In the event a scholarship recipient must temporarily withdraw from school, he/she must promptly report this withdrawal to the Academic Affairs and the Business offices.
    b. If withdrawn for more than one term, he/she must reapply for the scholarship.
3. Maintain acceptable behavior and attendance records while a student at SHSBT.

Rudy J. & Annamae Labor Memorial Scholarship Fund.

Ten $7,000 scholarships are available each new school year for newly-enrolled, full-time students of SHSBT. Funds awarded may be applied to the cost of tuition and books. The amount will be evenly distributed over six terms. Scholarships are granted without regard to race, color, creed, sexual orientation, religion, age, disability, or national origin. This fund is held through the Centre Foundation.

For more information visit www.southhills.edu/financialaid/scholarships/

Other Information

Agency Funding Agencies such as Veterans Administration (VA), Trade Assistance Act (TAA), Workforce Innovation and Opportunity Act (WIOA), Office of Vocational Rehabilitation (OVR), and Department of Public Welfare (DPW) have provided assistance to students attending SHSBT School. For more information contact the Financial Aid office.

Financial Aid Award Offer The financial aid award offer lists the aid programs offered to the student, amounts by term, and the total amount offered for the academic year. Students may choose to opt-out of receiving the award offers through email by contacting the Financial Aid office.

A student may accept all or part of the package being offered. If a student is declining part of the aid offered, he/she must identify which type of award is being rejected and return the amended award offer to the Financial Aid office. This will in no way affect his/her eligibility for other awards. Refer to Loan Disbursements under Title IV Aid for the timeline to cancel or reject all or part of any Federal Loans.

Verification This is the process used to check the accuracy of the information provided when the FAFSA was filed. The U.S. Department of Education selects applicants for the verification process. Should a student be selected for this process, he/she will be asked to submit specific information to the Financial Aid office. The Financial Aid office will submit any changes that need to be made as a result of verification. If the verification results in an over award to the student, the school will make the adjustment with the U.S. Department of Education. All overpayment cases will be reported to the U.S. Department of Education whether occurring at SHSBT or a prior school. The student will be sent an updated award offer if there's a change in the award.

Satisfactory Academic Progress (SAP) for Title IV Aid (Federal Pell Grant, Direct Loans) The satisfactory academic progress (SAP) policy has two standards of measure. Both standards of measure must be met to achieve progress for Title IV Aid. Progress checks are performed at the end of each term.

Qualitative (grade-based) – At the time of a progress check the student must maintain at least a 2.0 GPA for the term as well as a 2.0 cumulative GPA.

Quantitative (time-based) – At the time of a progress check the student has to complete 67 percent of credits attempted for the term as well as 67% of credits attempted overall in his/her program. The maximum allowable time frame for a student to complete a program is 1.5 times the normal length of the program.

Maximum Time Frame

Students must complete their program within a maximum time frame based on credits attempted in their program of study. All attempted credits by the student count for SAP purposes. A period of time that is 150% of the published length of the academic program in which the student, for financial aid and Academic purposes, is expected to complete his or her academic program. The maximum timeframe is calculated by multiplying the minimum credits required for the academic program by 150% to determine the maximum number of credits. Also, at the 50 percent point of his/her program, the student must have a minimum of a 2.0 cumulative GPA and he/she must have earned 67% of credits attempted. The 50 percent point is based on total credits in his/her program and the midway point will be determined when a student has attempted 50% of the credits required to complete his/her program.

For example, a student pursuing a Specialized Associates Degree that requires 132 credits has a maximum timeframe of 198 credits. Withdrawals and repeated courses will have a negative impact on a student's pace. If SAP or pace is not achieved, a student's financial aid and ability to complete their program of study within the allowable time frame may be compromised. Once the student has reached the maximum time frame or the office of Academic Affairs determines that it is not mathematically possible for the student to complete their academic program within the maximum time frame, the student is ineligible for financial aid and will not be permitted to continue in the program.

Transfer Credits

Transfer credits and exemption credits will not be used when calculating qualitative measurement; however, transfer credits and exemption credits will be included in credits attempted and credits earned when calculating quantitative measurement.

Alert

Students receive this notation on his/her transcript corresponding to the first term he/she does not achieve SAP. Students will be notified of the minimum requirement(s) in order to make SAP and consequences of not making SAP. The student may continue to attend in his/her program and continue to receive applicable financial aid. This subsequent term is known as Warning.

Warning

Students receive this notation on his/her transcript following the term noted as Alert. **While on Warning, the student may receive one payment period (term) of financial aid**. At the end of the term on Warning, a progress check will be conducted. If the student makes SAP, he/she will be considered in good standing and the student will continue to receive any applicable financial aid in the subsequent term. If the student does not make SAP, he/she must formally appeal in writing to the school's Director of Education. Academic Affairs will determine the minimum amount of credits and GPA needed for the student to make SAP. The student is required to meet with the Director of Education, Academic Affairs, and Financial Aid regarding the appeal process/status.

If it is determined that a student will be unable to achieve SAP as well as the graduation requirements as outlined above by the end of the following quarter, then the student will be dismissed from his/her program. He/she will lose all financial aid. At this point, the student may continue as a certificate student or withdraw from school.

Appeal Process

If a student does not meet SAP standards by the end of the payment period (term) on Warning, he/she must formally appeal in writing to the school's Director of Education in order to be considered for eligibility of financial aid and to continue under his/her current program of study. The student makes the formal appeal by completing an appeal form that is given to them by the Academic Affairs Officer. On the appeal form the student must explain what type of circumstances contributed to the unsatisfactory academic progress, as well as what has changed in the student's situation that would result in the achievement of progress. The student must then meet with Academic Affairs, Financial Aid, and the Director of Education to review the appeal before a determination is made.

Probation

If the appeal is granted, the student will be placed on Probation for one quarter and he/she will receive this notation on his/her transcript corresponding to the term on Probation. **Students may not be placed on Probation for more than one quarter in their program**. Eligible students may continue to receive financial aid while on Probation.

During Probation, the student must achieve qualitative measurement by earning a 2.0 for the quarter GPA and a 2.0 cumulative GPA and quantitative measurement by earning 67 percent of credits attempted in that quarter as well as 67 percent of credits attempted overall towards his/her program in order to maintain diploma or associate in specialized business or technology degree status.

At the end of the term on Probation, a progress check will be conducted. If the student makes SAP, he/she will be considered in good standing and the student will continue to receive any applicable financial aid in the subsequent term.

If the student is unable to achieve SAP, he/she will be dismissed from his/her program. He/she will lose all financial aid for that program. At this point, the student may continue as a certificate student or withdraw from school.

Certificate Status

If a student loses his/her diploma or ASB/AST degree status because of not meeting satisfactory academic progress, he/she may continue training in that program as a certificate student. **Certificate students are ineligible for any student financial aid.**

Reinstatement Procedure

Students who have been dismissed from their program for failure to achieve SAP and wish to be reinstated as a diploma or ASB/AST degree candidate may re-enroll in a different program. When a student changes program, the student will start the program in Good Standing. Only the credits attempted and the grades earned for those courses which are applicable to the new program will be used to determine the GPA and satisfactory academic progress (SAP). If the student fails to make SAP by the end of the probationary term in the new program, they will not be permitted to re-enroll in another new program for a minimum of five years from the date they were dismissed from the new program. Students who have been dismissed from their program for failure to achieve SAP and wish to be reinstated as a diploma or ASB/AST degree candidate in the same program, must first reapply for school and attend as a certificate student. If the student demonstrates, after completing additional coursework and achieving the qualitative measurement which is a minimum quarter GPA of 2.0 and cumulative GPA of 2.0, and the quantitative measurement which is when the student has earned 67 percent of credits attempted in that quarter as well as 67 percent of credits attempted overall towards his/her program, the student may be reinstated as a diploma or ASB/AST student. Credits taken by the student under the Certificate status will be counted as credits attempted, and will be used in calculating quarter/cumulative GPA towards his/her new or intended

program. In no case can any student exceed 150 percent the standard program length and receive the original academic credential (diploma or ASB/AST degree) for which he or she enrolled.

Failure

Students who earn an "F" or "WF" in all classes in any term will not be scheduled for classes in the subsequent term unless they schedule a meeting with Academic Affairs. Academic Affairs will review the student's academic status to determine whether he/she will be able to achieve SAP in the subsequent term. If it is determined that the student will be able to achieve SAP as well as the graduation requirements by the end of the following term he/she will be permitted to continue with classes. If the student will not be able to achieve SAP, he/she will be dismissed from his/her program and will lose all student financial aid. The student may, however, continue training as a certificate student and the policy above for reinstatement will apply**. The student will not be eligible for financial aid during this period and will be responsible for the cost of the certificate credits.**

Incompletes

An incomplete is identified on the report card with an "I." An incomplete grade must be replaced two weeks after the completion of the course or it automatically becomes the grade that the student has earned at that point.

After the two-week period and the course completion, the student receives his/her grade, and the student's GPA and SAP are calculated. This time frame may be adjusted at the discretion of the Director or Director of Education.

Withdrawals

To officially make any changes, the student must complete the official Drop/Change or Program/Withdrawal form, obtainable from the Academic Affairs office. The last date of attendance is the withdraw date and the date the form is completed is the determination date.

If a student is absent from school for fourteen (14) consecutive calendar days of the term and has not contacted the school, the student will be withdrawn from school and receive a WD (withdraw, no grade) for all classes he/she was enrolled in that term. The last date of attendance is the withdraw date and the date the form is completed is the determination date.

A course with the designation of "WD" has no effect on the term's GPA, qualitative measurement for satisfactory academic progress. For financial aid purposes, quantitative measurement for withdrawn course(s) count as credits attempted, but not earned, when calculating whether or not the student has earned 67 percent of credits attempted. "WD" courses are counted as credits attempted in determining the maximum course completion length allowed.

A course with the designation of "WF" does have an effect on the term's GPA and is equal to zero quality points when calculating the qualitative measurement. For financial aid purposes, quantitative measurement for "WF" count as credits attempted, but not earned, when calculating whether or not the student has earned 67 percent of credits attempted. "WF" courses are counted as credits attempted in determining the maximum course completion length allowed.

Repetitions

A student may repeat a class after failing or earning a grade lower than the minimum grade required for the course. A repeated class is identified on the transcript with an asterisk beside the grade. When a class is repeated, the best grade is used when determining the qualitative measurement for cumulative GPA. The credits for both the original failed attempt and the repeat attempts will be counted as credits attempted. Only the passing attempts will be counted as credits earned when calculating the quantitative measurement. No course may be attempted more than three times.

Change of Program

When a student changes programs, only the credits attempted and the grades earned for those courses which are applicable to the new program will be used to determine the GPA and satisfactory academic progress (SAP). SAP will be evaluated at the end of the term for the new program.

Additional Credits

If a student wishes to take credits outside his/her enrolled program, he/she will not receive financial aid for those credits. Nor will these "additional credits" be counted towards SAP.

Return to School After a Withdrawal

If a student withdraws from school and wishes to return, he/she must first complete a re-application to school (available from the Academic Affairs office). If his/her prior account at SHSBT is paid in full, the Admissions department will then send the student a new enrollment agreement given he/she meets all the Admission requirements for that program. If a balance remains on the account, the balance must be paid

in full before the school will consider the re-application. Once the Financial Aid office receives the student's file containing his/her re-application, enrollment agreement and an up-to-date transcript, financial aid will be processed for the student if he/she has applied for aid and has met SAP.

Graduation Rates Program completion rates may be obtained by contacting the Academic Affairs office or by checking the disclosures section of the school's website. The rates are available to all students.

Financial Aid Consumer Information At SHSBT, our Financial Aid office is here to help you finance a great education. A large percentage of our students receive financial aid assistance of some type from: scholarships, federal grants, state grants, student loans, parent PLUS loans and/or agency funding. Your student aid package is based on SHSBT analysis of your student need, as determined by the processing of your Free Application for Federal Student Aid (FAFSA). Typically, student aid packages are a combination of scholarships, state and federal grants, student loans and parent PLUS loans -- all designed to help you easily manage your education expenses.

The Financial Aid office at SHSBT offers full service financial aid appointments to all enrolling students to assist with FAFSA and grants/scholarships/student loan applications. Please contact one of our financial aid office administrators to schedule an appointment if you have any questions or concerns regarding financial aid.

Our financial aid staff is listed below:

State College and Altoona

LeRoy Spicer, Director of Financial Aid
lspicer@southhills.edu

Darla Gosa, Financial Aid Administrator
dgosa@southhills.edu

For questions related to student invoicing, please contact Trudy Musser (Assistant to the Bursar) at tmusser@southhills.edu or Robin Weikel (Bursar and Office Manager) at rweikel@southhills.edu at SHSBT Business office. The toll-free phone number is 888-282-7427.

Visit SHSBT's website for more consumer information.

Tuition & Fees/Refund Policy . . .

Interest Charges Interest at the rate of 1.5 percent per month will be assessed and added to an outstanding balance more than 30 days old.

Returned (NSF) Checks It is understood that if student's (parents or guardians) check is returned to the school for insufficient funds, it will be reprocessed once and a service charge equal to the fee charged by the bank will be added. If said check is returned a second time, student (parent or guardian) must pay in cash or with a money order.

Tuition To avoid interest charges, tuition must be paid within 15 days of receiving an invoice from the school. If the current unpaid balance is not paid before the last day of the term, a $25 late charge will be added. After 30 days, interest at 1.5 percent of the current unpaid balance will be added each month until the entire amount is paid in full. All costs for a term must be paid prior to the student beginning a subsequent term.

Payments for all charges may be made via any of the following methods:

- Cash
- Check or money order payable to SHSBT School
- Credit or debit card (VISA, MasterCard, Discover, American Express)

The below per term basic tuition charges are for the following programs: Business Administration-Accounting (BAA), Business Administration-Management & Marketing (BAM), Graphic Arts (GA), Information Technology (IT), and Software Development & Programming (SDP)

Cost Per Term (Effective through June 30, 2025)

Student Status	Credits Carried	Tuition
Full-Time	12.0-24.0	$6,300
Three-Quarter Time	9.0-11.5	$4,725
Half-Time	6.0-8.5	$3,150
Certificate	Varies	$525 per credit

If a student takes more than 24 credits, or less than 6.0 credits per term, he/she will pay for those credits at the rate of $525 per credit.

Associate in Specialized Technology Degree: The below tuition rates apply to the following DMS programs and the listed terms.

Diagnostic Medical sonography (DMS) Terms 1 thru 5

Diagnostic Medical Sonography Professional (DMP) Term 1

Diagnostic Medical Sonography Professional Plus (DPP) Terms 1 and 2

Student Status	Credits Carried	DMS Tuition
Fulltime	12.0-24.0	$6,540
Three-Quarter Time	9.0-11.5	$4,905
Half-Time	6.0-8.5	$3,270
Per Credit	Varies	$545 per credit

If a student takes more than 24 credits, or less than 6.0 credits per term, he/she will pay for those credits at the rate of $545 per credit.

Associate in Specialized Technology Degree: The below tuition rates apply to the following DMS programs and the listed terms.

Diagnostic Medical Sonography (DMS) Terms 6 thru 9

Diagnostic Medical Sonography Professional (DMP) Terms 2 thru 5

Diagnostic Medical Sonography Professional Plus (DPP) Terms 3 thru 6

Student Status	Credits Carried	DMS Tuition
Fulltime	12.0-24.0	$7,200
Three-Quarter Time	9.0-11.5	$5,400
Half-Time	6.0-8.5	$3,600
Per Credit	Varies	$600 per credit

If a student takes more than 24 credits, or less than 6.0 credits per term, he/she will pay for those credits at the rate of $600 per credit.

Associate in Specialized Technology Degree Engineering Technology (ET) students will be charged the rates below for all terms:

Student Status	Credits Carried	ET Tuition
Fulltime	12.0-24.0	$6,540
Three-Quarter Time	9.0-11.5	$4,905
Half-Time	6.0-8.5	$3,270
Per Credit	Varies	$545 per credit

If a student takes more than 24.0 credits or less than 6.0 credits in any term, the cost for those credits will be $545 per credit.

The school will not (1) award a diploma or ASB or AST degree, or a certificate of achievement, (2) issue a transcript, or (3) assist in placement until all current tuition, fees, and other costs have been paid in full.

Medical Coding & Billing (MCB) Diploma students' total tuition will be $11,025 and includes the cost of all books, the cost of either the AAPC coding certification exam (CPC) or the AAPC billing certification exam (CPB), and an AAPC student membership.

A non-refundable program fee of $500 for the cost of the AAPC online learning management system is charged the first term.

Administrative Professional (AP) Diploma students' total tuition will be $12,600 and includes the cost of all books and online materials.

A non-refundable program fee of $180.00 is charged the first term.

Medical Assistant (MA) Diploma students' total tuition will be $18,900.00. Per term: Fulltime $4725.00, 3/4X $3544.00, H.T. $2363.00, per credit $394.00.

A non-refundable program fee of $500.00 is charged the first term.

Technology Fee A Technology Fee of $25.00 per term will be posted to all Enrolled and Re-enrolled students.

Tuition Cost per Program

Program	Current Total Tuition for Programs	New Tuition for Programs Effective July 1, 2025
Administrative Professional	$12,780	$13,140
Business Administration—Management & Marketing	$44,100	$45,360
Diagnostic Medical Sonography	$61,500	$63,120
Diagnostic Medical Professional	$35,340	$36,240
Diagnostic Medical Professional Plus	$41,880	$42,960
Engineering Technology	$45,780	$47,040
Graphic Arts	$37,800	$38,880
Information Technology	$44,100	$45,360
Medical Assistant	$18,900	$19,940
Medical Coding & Billing	$11,525	$11,840
Software Development & Programming	$44,100	$45,360

Refund Policy For students withdrawing from school after classes begin, the tuition charges retained for each term will be based on the last date of attendance and determined as follows:

Portion of the Term	Percent of Tuition Retained
Prior to the First Calendar Day	0%
First Seven Calendar Days*	25%
After the First Seven Calendar Days in the First 25%	45%
After the First 25% in the First 50%	70%
After the First 50%	100%

*See Grace Period Policy

Tuition credit adjustments will be applied within 30 days of the last date of attendance.

Grace Period Policy Students enrolling for the first time in a program of study at SHSBT may attend classes for a period of up to 7 calendar days without incurring tuition or course charges, if they stop attending. Students enrolled and/or returning students, not defined as first time in a program of study at SHSBT, may be extended the same "grace policy" for a period of up to 7 calendar days if no contact with the school has been made. Under this grace policy, the institution will credit any tuition fees the student may have incurred during the grace period and will rescind all of the student's financial aid that may have become earned by the institution in this grace period. Students who withdraw at any other time in the term or beyond the grace period will not be extended this grace period; tuition fees and financial aid will be prorated accordingly (please see "Refund Policy" above).

Five-day Cancellation Policy A student may cancel their enrollment and request a refund of the registration fee or any other applicable fees within five days after signing an enrollment agreement. All monies will be refunded within three days.

Title IV Refund Policy The Financial Aid and Business Office is required by Federal statute to recalculate Federal financial aid eligibility for students who withdraw, drop out, or are dismissed prior to completing 60 percent of a payment period or term. The Federal Title IV financial aid funding must be recalculated in these situations.

If a student leaves SHSBT prior to completing 60 percent of a payment period or term, the Business Office recalculates eligibility for Title IV funds, using an R2T4 form prepared by the Financial Aid Office. Recalculation is based on the percentage of earned aid using the following Federal Return of Title IV Funds formula: Percentage of payment period or term equals the number of days completed up to the last day of attendance divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of aid earned. Calendar days for each term during the enrollment period are as follows: Fall 2024, 87; Winter 2024-2025, 95; Spring 2025, 87; 10 Week Summer 2025, 71; 12 Week Summer 2025, 86.

Funds are returned to the appropriate Federal program based on the percentage of unearned aid. Based on the withdrawal date, the student may be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a balance to the school.

Post Withdrawal Disbursement (PWD) If a student earned more aid than was disbursed to him/her, (such as, a withdrawal where aid "could have been disbursed" the school owes the student a PWD. The PELL grant must be paid within 45 days of the withdrawal date. A student authorization is not required to disburse the PELL grant PWD.

South Hills School (SHS) needs to notify the student within 30 days of the withdrawal date **(34 CFR 668.22 A)** about the availability of a Direct Loan (DL) PWD. The student (or parent if PLUS loan) receives an authorization form from SHS that they need to sign/authorize and return to SHS in 15 days. The borrower may accept or decline some or all of the funds. If the response to the authorization form is timely, SHS must disburse the PWD DL disbursement as requested by the borrower. The disbursement must be disbursed/credited to the student's account no later than 180 days **(34 CFR 668.22 C)** after the determined withdrawal date. If the R2T4 calculation results in a credit balance it will be refunded to the borrower within 14 days.

If the form isn't returned to South Hills School in 15 days, the school will return the funds to the lender.

South Hills School must return the amount of Title IV funds for which it is responsible, no later than 45 days after the determination date of the student's withdrawal.

Refunds are allocated in the following order:

Unsubsidized Direct Loans

Subsidized Direct Loans

Direct PLUS Loans

Federal Pell Grants for which a return of funds is required

Federal DL, and PELL Grant Refund Policy A Title IV calculation determines the percentage of unearned Funds needing returned to the above listed fund sources.

Pennsylvania State Grant, OVR, TAA, and WIOA Refund Policy The school tuition refund policy determines the amount to refund.

TAA Refunds TAA calculates the refunds that are due, using the TAA refund policy.

Veterans Benefits refunds The VA Debt Management Center will send the school a collection notice. The required refund will then be submitted to the US Department of Veterans Affairs.

Refunds for Courses Dropped After the Term Has Commenced If credits dropped do not change the student status, i.e. full-time, three-quarter time, half-time, or less than half-time, there are no refunds.

If a change of student status does occur or a student drops to less than half-time, he/she will pay the remainder of the term on a per-credit basis and will be refunded the difference between the original cost and the new cost times the applicable refund percentage.

All students who wish to drop a course or withdraw from school are asked to complete an official drop or withdrawal form. This assures that any refund due is processed accordingly and that the change becomes a matter of record.

Books, Supplies and Course Charges Books, supplies and course charges are not part of the total tuition cost unless otherwise noted. SHSBT does not sell books. The school has an agreement with The Student Book Store to be a textbook/supplies provider. SHSBT will provide the information on how to purchase books/supplies. Students may choose another vendor if they desire.

A student who has excess financial aid above the cost of tuition will have a book voucher created. Book vouchers are generally a maximum of $600. Larger or smaller voucher amounts may apply based on available funds and as needed. If you choose not to use the book voucher, any excess funds will be distributed with the excess checks or direct deposits.

The following are the estimated total course charges by program. These course charge totals are subject to change and will be charged to student accounts in the term that the expense was incurred. A full disclosure of itemized course charges is available upon request at the Business Office.

Program	Estimated Total Course Charges	Program	Estimated Total Course Charges
AP	$180	GA	$315
BAMM	$40	IT	$143
DMS	$803	MA Diploma	$500
DPP	$758	MCB	$500
DMP	$688	SDP	$143
ET	$0		

Services Available to Students with Disabilities . . .

The Rehabilitation Act of 1973 prohibits discrimination on the basis of disability. The school's ADA/Section 504 Coordinator is responsible for the school's overall efforts to comply with the ADA and Section 504 of the Rehabilitation Act. Duties include, but are not limited to:

- Administering the school's ADA regulations.
- Reviewing documentation for requests for reasonable accommodations.
- Reviewing concerns and appeals of eligibility determinations and reasonable accommodation determinations for students in accordance with this regulation.
- Evaluating the school's decisions in accordance with applicable guidelines under the ADA and Section 504.

The ADA/Section 504 Coordinator is:

- State College Campus: Barbara Chadick, Director of Student Services
- Altoona Campus: Barbara Seeger, Altoona Campus Director/Director of Education

SHSBT will make reasonable accommodations for students with disabilities. A reasonable accommodation is a modification or adjustment to a program, service, or activity that provides a qualified student with a disability an equal opportunity to participate in the school's programs. These services include, but are not limited to additional time to complete exams and taking exams in a quiet non-distracting room.

Students requesting accommodations must meet with the campus 504 Coordinator. Appropriate documentation from a licensed professional is required to certify that he/she has a disability and to determine reasonable accommodations. Physical disabilities should be verified by a medical doctor or licensed rehabilitation counselor. Learning, cognitive, and psychological disabilities should be verified by a psychological assessment from a licensed psychiatrist or psychologist.

Reasonable accommodations are individualized and determined on a case-by-case basis. It is a student's responsibility to ask for and make use of the accommodations. Each student is ultimately responsible for his or her academic success. Each student must take the initiative to use time, facilities, and support services in a productive manner.

Drug/Alcohol Abuse Prevention Program . . .

SHSBT is committed to protecting the safety, health, and well-being of its students, employees, and all people who come into contact with SHSBT community. The abuse of alcoholic beverages, drugs, intoxicants, or other controlled substances ("substance abuse") poses a direct and significant threat to this goal. Substance abuse can, among other things, impair thinking, reading, comprehension and verbal skills, produce mood swings, panic, and violent and bizarre behavior, and result in loss of physical control or death.

In an effort to create and maintain a campus environment free from such substance abuse, SHSBT has established this Substance Abuse Prevention Program. This program provides critical information and resources relating to substance abuse, and implements standards, policies, and procedures that foster a healthy environment for both students and employees. The program has been designed consistent with the applicable sections of Federal Regulations 34 CFR Part 84 (Drug Free Workplace) and 34 CFR Part 86 (Drug and Alcohol Abuse Prevention) and is set forth for students and employees alike.

SHSBT believes that the benefits of this program are manifold. The program promotes the physical and psychological health of our students, faculty, and staff, ensures our continued reputation and quality of service, protects SHSBT's property and operations, and enhances the safety of the general public.

The SHSBT Substance Abuse Prevention Program will be provided to new students prior to starting class and new employees upon hire. The program will also be available and published yearly on the school's website https://www.southhills.edu/disclosures/

Disclaimer: The order of courses, exact courses, course credits and/or hours are subject to change. Should a change occur, the school will notify the student of the exact course, course credits, and/or hour changes by email, using the student's school-provided email address. If the overall program length or cost changes before the student begins the program, the student will receive a new enrollment agreement for his/her signature. Tuition increases subsequent to starting the program will be communicated, in writing, at least 60 days in advance of the change and will not require the generation of a new enrollment agreement. The written notification will serve as an amendment to the original enrollment agreement.

GUIDE TO COURSE DESCRIPTIONS

AP	Administrative Professional	CD	Career Development
CE	Civil Engineering	CP	Computers
DM	Diagnostic Medical	MK	Marketing
OS	Office Specialist	PD	Professional Development
WP	Word Processing	HI	Health Information
IM	Industrial Manufacturing	IT	Information Technology
LE	Legal	MA	Medical Assistant
MD	Medical	MG	Management
DS	Diagnostic Medical Sonography	GA	Graphic Arts
GE	General Education	MC	Medical Coding

General education courses are listed below. Course descriptions may be found under course listings.

GE114 Business English I*	GE117 Applied Algebra	GE230 Applied Algebra II
GE180 Applied Psychology	GE207 Applied Psychology in Health Care	GE231 Art History for the Graphic Designer
GE232 Business Economics	GE183 Business English I	GE186 Business English Essentials
GE184 Business English II	GE210 Business English III	GE118 Business Mathematics
GE233 Business Writing	GE261 Engineering Economics	GE234 Geometry for Design
GE130 History of IT	GE178 Human Relations in the Workplace	GE133 Introduction to Business Statistics
GE181 Introduction to Statistics for CJ	GE179 Mathematics for Health Care Professionals	GE213 Oral Business Communications
GE262 Oral Presentation Skills	GE260 Statistical Applications	GE258 Statistical Methods and Applications
GE259 Technical Writing	GE182 Writing for CJ	

Administrative Professional

The Administrative Professional program prepares individuals to be proficient office administrators and managers. Students in this program learn the most extensively used software packages, office procedures, and management techniques.

Through a comprehensive educational training program including attention to theory, practice, and application, students in the Administrative Professional program will develop the knowledge, skills, and attributes in many diverse areas of office administration.

The Administrative Professional program prepares students to:

- Develop organizational systems using software productivity tools.
- Arrange, coordinate, and schedule meetings.
- Demonstrate ability to network office computers and troubleshoot basic computer issues
- Design and maintain social media sites
- Arrange travel
- Prepare research findings for reports
- Perform Human Resources function such as hiring, benefit administration, and payroll
- Arrange and coordinate events

Upon completion of the Administrative Professional program, the graduate will be awarded an occupational Associate in Specialized Business Degree. The program is designed to provide students with the skills necessary for entry-level positions such as Administrative Assistant, Administrative Professional, Computer Applications Specialist, Executive Administrative Assistant, Office Assistant, Office Manager, Project Manager, and Support or Software Specialist.

If you would like to be part of a very diverse, ever-changing work environment, consider becoming an administrative professional.

The Administrative Professional program is offered at the State College location.

ADMINISTRATIVE PROFESSIONAL
Diploma Program
54.5 credits/829 clock hours/9 months

Code	Course	Credits	Clock Hours
First Term			
GE187	Business Mathematics**	4.0	60
GE188	Business Writing Essentials	4.0	60
AP110	Document Processing**	3.5	60
MG226	Human Resource Management**	2.5	36
AP111	Microsoft Word Essentials**	2.0	40
PD130	Professional Development**	2.0	27
		18	283
Second Term			
WP212	Desktop Publishing I**	4.5	60
AP112	Editing & Proofreading**	2.5	36
GE178	Human Relations in the Workplace	2.5	36
AC124	Introduction to Accounting & Payroll**	4.0	60
CP140	Microsoft Excel Essentials* *	4.0	74
GE264	Oral Business Communications* (Hybrid)	1.5	24
		19.0	290
Third Term			
AC129	Computerized Accounting*(Hybrid)	4.0	60
MG107	Customer Relations	3.0	36
CD220	Job Search Skills**	2.0	28
AP113	Microsoft Access Essentials**	3.0	48
AP109	Records Management**	2.0	36
AP114	The Office Environment**	3.5	48
		17.5	256

**Fully Distance *Hybrid

Program Requirements: Students in the Administrative Professional program must complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Applicants are also required to sign an attestation to verify that they have access to a computer capable of running a modern web browser, such as Chrome and have available internet access. The computer must be a Windows-based computer, as some software programs taught in the program are not available for Apple products.

This program contains some online and hybrid classes. Online classes are fully online, and hybrid classes have part of the class online and part of the class residential. Each course syllabus clearly states the type of delivery method for each course. The online and hybrid components of this program utilize Canvas, a learning management system from Instructure, to deliver content and assessments that are developed in-house. All students will be at the school throughout the week and will have the same access to our learning resource system, student services, and technology support that our fully residential students receive.

COURSE DESCRIPTION

GE187 BUSINESS MATHEMATICS (4.0 credits/60 clock hours)** This course is designed to refresh the student's knowledge of math fundamentals and to apply these fundamentals in business and everyday life. The following concepts will be covered: review of percentage, simple interest, compound interest, sinking fund, annuities, inventory, depreciation, payroll, cash and trade discounts, markup and markdown, banking and related areas. *Prerequisite: None*

GE188 BUSINESS WRITING ESSENTIALS (4.0 credits/60 clock hours)** This course prepares students to be successful writers of business correspondence. In order to prepare successful writers of business correspondence, students will learn and apply the skills needed to effectively write various types of business messages. *Prerequisite: None*

AC129 COMPUTERIZED ACCOUNTING* (4.0 credits/60 clock hours) The course introduces students to computerized accounting software and examines the software selection process. This is a hands-on course where the student maintains all aspects of the accounting process for a business using a computerized accounting program. One micro-computer-based accounting software product will be utilized to complete an entire accounting cycle involving the accounts receivable, accounts payable, inventory, payroll, job cost allocation, and report generation for a fictitious company. *Prerequisite: Account I or Introduction to Accounting & Payroll*

MG107 CUSTOMER RELATIONS (3.0 credits/36 clock hours) Principles of customer service and customer service techniques will be presented. Emphasis will be placed on communication skills, telephone skills, problem solving, customer retention issues, and the development of customer service strategies and policies. *Prerequisite: None*.

WP212 DESKTOP PUBLISHING I (4.5 credits/60 hours)** This course teaches students to create professional and printed materials such as brochures, forms, newsletters, reports, and booklets on the computer. Students will learn basic design and page layout skills and produce a variety of documents which incorporate text and graphics. *Prerequisite: None*

AP110 DOCUMENT PROCESSING (3.5 credits/60 hours)** This course is designed to develop the student's understanding of the office, including project management, SharePoint, the virtual office environment, and calendaring *Prerequisite: None*

AP112 EDITING & PROOFREADING (2.5 credits/36 hours)** This course was designed to further develop the student's ability to edit and proofread accurately. Students will learn to edit digital documents in order to create mailable, publishable content appropriate for the business world. *Prerequisite: Business Writing Essentials*

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. *Prerequisite: None*.

MG226 HUMAN RESOURCE MANAGEMENT (2.5 credits/36 hours)** Through readings, case studies, and lectures, the student will become familiar with various aspects of human resources. Topics will include interviewing/recruiting, performance management, regulatory/legal compliance, employee relations, communications, policy administration, and recordkeeping (payroll, personnel files, etc.) *Prerequisite: None*

AC124 INTRODUCTION TO ACCOUNTING & PAYROLL (4.0 credits/60 hours)** The purpose of this course is to acquaint the student with the relationships between accounting and business and to define basic accounting terminology. Accounting is introduced as the common financial language used in business organizations. In addition, students are introduced to the double-entry system, journals, ledgers, trial balances, and special purpose journals. The sole proprietorship business entity is used throughout this course as it pertains to service-oriented operations. Students will be introduced to the requirements for maintaining employees' payroll records, the computations necessary to determine proper wages and appropriate tax withholdings and other payroll deductions, the procedures for remitting the taxes, and the employer's responsibilities for reporting payroll information to the various governmental agencies. Current federal and Pennsylvania requirements will be discussed. *Prerequisite: Business Mathematics*.

CD220 JOB SEARCH SKILLS (2.0 credits/28 hours)** This course prepares students for the job search process. Topics include resume development, cover letters and thank-you letters, job search techniques and interviewing skills. Students will participate in a role-play a mock interview in the classroom to practice interviewing skills. *Prerequisite: None*.

AP113 MICROSOFT ACCESS ESSENTIALS (3.0 credits/48 clock hours)** This course will cover beginning and intermediate database topics. The students will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries, and forms. *Prerequisite: None*.

CP140 MICROSOFT EXCEL ESSENTIALS (4.0 credits/74 hours)** This course uses a problem-solving approach to teach spreadsheet functions. The student will be introduced to beginning and intermediate level spreadsheet functions that will be used for creating, manipulating, and enhancing a worksheet; for creating graphics based on the worksheet; for enhancing a worksheet; and for integrating worksheets and graphics. *Prerequisite: None*.

AP111 MICROSOFT WORD ESSENTIALS (2.0 credits/40 hours)** This course is designed to provide students with the basic understanding of word processing, concepts, and terminology. The purpose of the course is to develop an ability to use the current version of Microsoft Word for both professional and personal use. *Prerequisite: None*

GE264 ORAL BUSINESS COMMUNICATIONS* (1.5 credits/24 hours) This applied communications course teaches the fundamentals of oral business communication with emphasis on improving speaking and listening skills in the workplace. This course will help students create informational speeches and familiarize students with formal speech preparation, business presentation skills, and effective nonverbal communication. *Prerequisite: None*

PD130 PROFESSIONAL DEVELOPMENT (2.0 credits/27 hours)** Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. *Prerequisite: None*

AP109 RECORDS MANAGEMENT (2.0 credits/36 hours)** This course teaches the fundamentals of filing through a series of instructions, exercises, and quizzes. The student will apply the correct procedures to file and request records. Records retention, transfer, and disposition will be discussed. Alphabetic, numeric, subject, and digital systems will be used in accordance with the popular ARMA rules. *Prerequisite: None*.

AP114 THE OFFICE ENVIRONMENT (3.5 credits/48 hours)** This course is designed to develop the student's understanding of the office, including project management, SharePoint, the virtual office environment, and calendaring. *Prerequisite: None*.

**Fully Distance *Hybrid

Business Administration—Management & Marketing

Today's manager is formally educated in the separate profession of management. A manager must learn to plan, organize, direct and control in a manner which best combines the resources of the business in an efficient and effective manner. An essential aspect of management is marketing. Marketing encompasses almost every aspect of a business from product or service development, to developing strategies for promoting, pricing, selling, and distributing that product or service.

Through a comprehensive educational training program including attention to theory, practice, and application, students in the Business Administration- Management and Marketing Program will develop the knowledge, skills, and attributes to perform marketing and management functions within an organization.

The Business Administration - Management & Marketing program prepares students to:

- Create management plans to support strategic, tactical, and operational goals
- Collect marketing data using surveys and focus groups and analyze cross tabulations to find non-obvious patterns
- Create advertising and promotional materials and prepare media plans
- Demonstrate basic selling techniques through role plays and the utilization of sales proposal materials
- Create marketing plans by use of the 4 P's – product, place, price, and promotion – to reach a target market
- Create a website (blog), use social media platforms to promote/market internationally and apply SEO, SEM, and analytics to understand reach and engagement principles
- Create a business plan for a fictitious business
- Prepare income statements and balance sheets

Upon completion of the Business Administration - Management & Marketing program, the graduate will be awarded an occupational Associate in Specialized Business Degree. The program is designed to provide students with the skills necessary for entry-level positions such as Marketing Associate, Office Manager, Human Resources Assistant, Financial Sales Consultant, Purchasing Coordinator, Property

Management Assistant, Admissions Rep, Front-end Manager, Leasing Agent, Mortgage Specialist, Inside Sales Associate, Career Counselor, Customer Service Rep, Management Trainee, Operations Generalist, Recruiter, or Administrative Assistant.

The Business Administration—Management & Marketing program is offered at the State College location.

BUSINESS ADMINISTRATION—MANAGEMENT & MARKETING
ASB Degree Program
133.0 credits/2093 clock hours/25 months

Code	Course	Credits	Clock Hours
First Term			
AC125	Accounting I	4.5	60

GE117	Applied Algebra	4.0	60
GE183	Business English I	4.0	60
MG116	Introduction to Business	4.5	60
OS103	Keyboarding	1.0	20
PD110	Professional Development	2.0	24
		20.0	284

Second Term

AC223	Accounting II	4.5	60
GE184	Business English II	4.0	60
GE118	Business Mathematics	4.0	60
MG117	Management I	4.0	60
CP287	Microsoft Excel	4.5	60
		21.0	300

Third Term

GE210	Business English III	3.5	60
CP285	Computer Presentations	3.0	36
MG118	Management II	4.0	60
MK112	Marketing	4.0	60
CP284	Microsoft Word	4.5	60
MK110	Social Media for Business	2.0	36
		21.0	312

Fourth Term

MK206	Advertising & Public Relations	3.5	60
WP210	Desktop Publishing I	4.5	60
CD207	Job Search Skills	2.0	24
MG225	Entrepreneurship	4.0	48
CP124	Fundamentals of Web Site Design	4.5	60
MG228	Supply Chain Management	3.0	48
		21.5	300

Fifth Term

MG227	Human Resource Management	3.0	48
AC219	Managerial Accounting with QuickBooks	4.5	60
GE133	Introduction to Business Statistics	3.5	48
LE100	Business Law	3.0	36

MK208	Market Research & Statistics	3.5	60
MK113	Selling	3.0	48
		20.5	300
Sixth Term			
GE232	Business Economics	3.0	36
MG220	Business Plan	4.0	80
GE178	Human Relations in the Workplace	2.5	36
IT235	Microsoft Access	3.5	48
GE262	Oral Presentation Skills	2.5	36
		15.5	236
Seventh Term			
MG222	Business Administration—Management & Marketing Internship	11.0	330
MG221	Basic Personal Finance	2.0	21
CD106	Career Preparation	0.5	10
		13.5	361

COURSE DESCRIPTION

AC125 ACCOUNTING I (4.5 credits/60 clock hours) The purpose of this course is to acquaint the student with the relationships between accounting and business and to define basic accounting terminology. Accounting is introduced as the common financial language used in business organizations. The course emphasizes the importance of following accepted accounting principles so that a business' financial position can be appropriately evaluated. In addition, students are introduced to the double-entry system, journals, ledgers, trial balances, worksheets, preparation of the income statement, statement of owner's equity, and balance sheet; adjusting and closing entries; accounting for merchandising operations, classified financial statement formats, and ratio analysis. The sole proprietorship business entity is used throughout this course as it pertains to service-oriented and merchandising operations *Prerequisite: None*.

AC223 ACCOUNTING II (4.5 credits/60 clock hours) Accounting II further expands on the principles and procedures introduced in Accounting I. This course continues with the topics of internal controls, banking transactions and detailed studies of the accounting for short term investments, receivables, merchandise inventory, notes payable, payroll, fixed assets and intangible assets. *Prerequisite: Accounting I.*

MK206 ADVERTISING & PUBLIC RELATIONS (3.5 credits/60 clock hours) This course is designed to cover two areas. Advertising will concentrate on two segments: (1) the technique and strategy of creating and writing advertisements and (2) an exploration of the advertising media available. Public relations, as related to an organization's image and its relationship to advertising, will be discussed. Upon completion the students will have a basic understanding of where and how advertising and public relations fit into our marketing, economic, and political lives. *Prerequisite: None*.

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. *Prerequisite: None*.

MG221 BASIC PERSONAL FINANCE (2.0 credits/21 clock hours) Upon completion of this course, the student will be able to: set realistic financial goals; understand how, when, and where a recordkeeping system should be developed; develop a budget; understand debt and debt reduction; and understand Social Security benefits. Additionally, the following topics will be covered: savings and investment, the home as an investment, funding college education, purchasing an automobile, insurance, retirement, and wills. *Prerequisite: None*.

MG222 BUSINESS ADMINISTRATION – MANAGEMENT & MARKETING INTERNSHIP (11.0 credits/330 clock hours) The student will work in a professional atmosphere in either the area of management or marketing under the supervision of a professional to fulfill the requirements of

the internship. The experience will provide the student with an opportunity to observe the interaction of personnel within a business environment. *Prerequisite: As per internship policy*.

GE232 BUSINESS ECONOMICS (3.0 credits/36 clock hours) This course is designed to introduce the students to the basic fundamentals of economics and how such knowledge can help them in understanding business decisions as well as personal decisions. We will discuss the principles of supply, demand, and market equilibrium and how these principles affect price and production in various economies along with graphs demonstrating how pricing decisions relate to these principles. We will discuss how marginal analysis is used to make business decisions. We will explore American history, the Industrial Revolution, and the way the country was transformed into a global superpower. *Prerequisite: None.*

GE183 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. *Prerequisite: None*.

GE184 BUSINESS ENGLISH II (4.0 credits/60 clock hours) Business English II further expands upon the skills and applications introduced in Business English I. Students will continue learning and applying the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. *Prerequisite: Business English I*.

GE210 BUSINESS ENGLISH III (3.5 credits/60 clock hours) In order to prepare them to be successful writers of business correspondence, students will, via individual and group practice, apply the skills learned to writing effective business messages by memo, letter and e-mail. Additionally, students prepare a resume, letter of application, and thank-you letter. *Prerequisite: Business English II*.

LE100 BUSINESS LAW (3.0 credits/36 clock hours) This course provides students with the basic understanding of the principles of law and its application to business. Students are introduced to the definition of law, the reasons for and methods of government regulation of business, and the basic structure of our legal system. Basic aspects of contract law are covered in detail. Discussion will revolve around the ways that business and law interact and how law benefits the business organization and the consumer. *Prerequisite: None*.

GE118 BUSINESS MATHEMATICS (4.0 credits/60 clock hours) This course is designed to refresh the student's knowledge of math fundamentals and to apply these fundamentals in business and everyday life. The following concepts will be covered: review of percentage, simple interest, compound interest, sinking fund, annuities, inventory, depreciation, payroll, cash and trade discounts, markup and markdown, banking and related areas. *Prerequisite: None.*

MG220 BUSINESS PLAN (4.0 credits/80 clock hours) This is the capstone course for the Business Administration – Management & Marketing program and gives students an opportunity to test their knowledge and skills. The students utilize management and marketing concepts and theories as they "start" their own small business and set organizational goals. A comprehensive business plan is written and formally presented. The plan includes a presentation of financial forecasts derived from accounting projections that could be used to open and operate the business for the first few years. Advertising and promotional campaigns are also included. This plan is a quantitative as well as a qualitative analysis. *Prerequisites: Management II, Marketing, Entrepreneurship, Market Research & Statistics, Advertising & Public Relations, Managerial Accounting with QuickBooks, and having a 2.0 cumulative GPA going into the Business Plan.*

CD106 CAREER PREPARATION (.5 credits/10 clock hours) This course is taken concurrently with the internship. The faculty advisor and the student discuss the student's progress at the internship site in a group setting and, for specific problems and successes, individually. Weekly reports are submitted and the experiences of the week are reviewed. In addition, classroom instruction may be given to address areas where the interns, faculty, or site supervisors feel additional work is needed. Field trips to explore different business environments and/or to expand knowledge about the area of study may be taken. *Prerequisite: As per internship policy*

CP285 COMPUTER PRESENTATIONS (3.0 credits/36 clock hours) The course will use a problem-solving approach to teach the use of the computer for presentation purposes. The student will be able to create a business-oriented presentation, document the presentation, and deliver the presentation to an audience. The student will be introduced to the concept of integrating spreadsheets, word processing and graphics with the presentation software program. *Prerequisite: None*.

WP210 DESKTOP PUBLISHING I (4.5 credits/60 clock hours) This course teaches students to create professional printed materials such as brochures, forms, newsletters, reports, and booklets on the computer. Students will learn basic design and page layout skills and produce a variety of documents which incorporate text and graphics. *Prerequisite: None*

MG225 ENTREPRENUERSHIP (4.0 credits/48 clock hours) This course will feature a real project detailing the fundamental principles of starting and maintaining a real small business. Retail, manufacturing and service businesses will be examined. Emphasis will be placed on financing and managing business operations, developing and executing a marketing strategy, understanding business risks, and organizational structure and legalities. This course is project oriented. *Prerequisite: None*

CP124 FUNDAMENTALS OF WEB SITE DESIGN (4.5 credits/60 clock hours) This course introduces fundamental Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create

and edit graphics for the Web, including social media sites. Content Management Systems (CMS) based Website development will also be introduced. This course will provide the basic fundamentals to various types of Web development techniques and associated graphics, enabling students to create, modify and enhance commercially viable Web pages. *Prerequisite: None*

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. *Prerequisite: None*.

MG214 HUMAN RESOURCE MANAGEMENT (2.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of human resources. Topics will include interviewing/recruiting, performance management, regulatory/legal compliance, employee relations, communications, policy administration, and recordkeeping (payroll, personnel files, etc.). *Prerequisite: None*.

MG116 INTRODUCTION TO BUSINESS (4.5 credits/60 clock hours) This course is designed to prepare the student to interact with the business world in a knowledgeable manner whether he/she owns the business, works for the business, or just deals with the business as a customer. The course will cover areas including forms of business ownership; the process of management and empowerment; the global dimensions of business; working in teams; promotional strategy; and labor/management relations. *Prerequisite: None*.

GE133 INTRODUCTION TO BUSINESS STATISTICS (3.5 credits/48 clock hours) This introductory course is designed to give the students a basic knowledge of statistics used in business. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas are covered: collection of data, introduction to sampling concepts, deceptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of dispersion, and an introduction of probability concepts, hypothesis testing with one sample and related areas. *Prerequisite: Applied Algebra*.

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. *Prerequisite: None*

OS103 KEYBOARDING (1.0 credits/20 clock hours) This course is designed to teach the students the correct keyboarding techniques and to help the student operate the letters, numbers, symbols and number pad by touch. *Prerequisite: None*.

MG117 MANAGEMENT I (4.0 credits/60 clock hours) The purpose of this course is to acquaint the students with the basics of management, including basic management terminology. Concepts of management are explored from a historical and practical perspective. The four functions of management—planning, organizing, leading, and controlling—are defined. Managerial planning is examined and qualitative and quantitative planning techniques are introduced. Organizational design and structure is analyzed to determine its impact on goal attainment. *Prerequisite: None*.

MG118 MANAGEMENT II (4.0 credits/60 clock hours) Management II expands on principles introduced in Management I. This course begins by examining the role of the manager as a supervisor. Techniques of motivation and human resource management are explored. Total Quality Management and the role of the manager in the control function are defined. Methods for creating control systems including inventory control, budget creation, and quality management are analyzed. *Prerequisite: None.*

AC219 MANAGERIAL ACCOUNTING WITH QUICKBOOKS (4.5 credits/60 clock hours) The course begins with an emphasis on the use of accounting data by internal managers of a business. This includes financial statement analysis, cost volume profit analysis, breakeven point and target profit. It highlights the differences between financial and managerial accounting and methods of preparing comprehensive budgets. Budget topics include purchase budgets, cash budgets, budgeted income statements, and balance sheets. The student will then utilize their background in accounting with an introduction to QuickBooks. *Prerequisite: Accounting II taken prior to or concurrently*.

MK112 MARKETING (4.0 credits/60 clock hours) An introduction to the principles of marketing. Through readings, case studies and lecture, the student will become familiar with consumer behavior as well as the 4 P's (price, promotion, place and product). The marketing of services and nonbusiness situations will also be discussed. *Prerequisite: None*.

MK208 MARKET RESEARCH & STATISTICS (3.5 credits/60 clock hours) A project approach to marketing research will be presented. Actual hands-on experience in the area of collecting, analyzing and using marketing data will be stressed along with information on the uses of marketing research. Descriptive and inferential statistics as they apply to marketing research and the business world will be explored. Emphasis will be placed on studying measures of central tendency, measures of variability, probability, and sampling. *Prerequisite: None*.

IT235 MICROSOFT ACCESS (3.5 credits/48 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms. *Prerequisite: None*

CP287 MICROSOFT EXCEL (4.5 credits/60 clock hours) This course uses a problem-solving approach to teach spreadsheet functions. The student will be introduced to beginning and intermediate level spreadsheet functions that will be used for creating, manipulating, and enhancing a worksheet; for creating graphics based on the worksheet; for enhancing a worksheet; and for integrating worksheets and graphics. *Prerequisite: None*.

CP284 MICROSOFT WORD (4.5 credits/60 clock hours) This course is designed to provide students with the basic understanding of word processing concepts, and terminology. The purpose of the course is to develop an ability to use the current version of Microsoft Word for both professional and personal use. *Prerequisite: None*.

GE262 ORAL PRESENTATION SKILLS (2.5 credits/36 clock hours) Oral Presentation Skills will introduce students to fundamentals in workplace communication with an emphasis on improving speaking and listening skills in a business environment. The course focuses on planning informative and persuasive messages, presenting business plans effectively, and speaking with confidence and poise. *Prerequisite: Taken concurrently with the Business Plan.*

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. *Prerequisite: None*.

MK113 SELLING (3.0 credits/48 clock hours) Principles of personal selling and selling techniques will be presented. Attention will be focused on the fact that personal selling is a key element of a firm's promotional strategy. Particular emphasis will be placed on building person-to-person relationships; how and why customers buy; and the role of salespeople as advisors, consultants, and partners to the buyer. Traditional topics such as prospecting, the sales presentation, negotiating resistance, and closing a sale will also be examined. *Prerequisite: None.*

MK110 SOCIAL MEDIA FOR BUSINESS (2.0 credits/36 clock hours) Introduction to e-business functions using the Internet. Topics include search engine marketing (SEM), search engine optimization (SEO), e-business, social networking, blogging, discussion groups, e-mail, the different functions and applications of the Internet, and how interactive technologies have changed business and consumer practices. Emphasis on the effect of the use of interactive technology on a company's existing marketing mix and current and potential uses of the Internet for marketing tactics and strategies. *Prerequisite: None*.

MG219 SUPPLY CHAIN MANAGEMENT (2.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of Supply Chain Management and Purchasing processes. Topics will include Supply Chain activities and functions, Supplier evaluation and selection, Supply quality management, Supplier performance measurement, Supplier development, Supply Chain analysis, Negotiation, Contract Management, and Purchasing Services. *Prerequisite: None*.

Diagnostic Medical Sonography

Sonography is a multi-specialty profession that uses ultrasound as its primary technology to evaluate and record images of various parts of the body. The sonographer/ultrasound technologist performs each exam methodically while treating the patient with care and compassion. Images obtained by the sonographer/ultrasound technician help physicians assess and diagnose medical conditions. Many sonographers/ultrasound technologists assist physicians and surgeons during minimally invasive procedures such as biopsies and injections as well as surgical procedures.

The field of sonography requires a commitment to patient care and self-improvement by participating in life-long learning, expanding knowledge and technical skill. Ethical judgment and critical thinking are crucial in performing each exam safely and effectively.

Upon completion of the Diagnostic Medical Sonography program, the graduate will be awarded an occupational Associate in Specialized Technology Degree. The graduate may find employment in several different environments including, hospitals, clinics, or physician's offices as an entry level Cardiac Sonographer, Vascular Sonographer, Abdominal Sonographer or OB/GYN Sonographer. More information about the sonography profession is available at www.sdms.org, www.asecho.org and www.svunet.org.

The Diagnostic Medical Sonography program prepares students to:

1. Demonstrate and perform proper patient care and interaction during sonography exams.
2. Recognize and interpret anatomy and pathology on ultrasound images.
3. Perform exams of diagnostic quality related to their specialty.

Minimum Expectations:

To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the following concentration(s):

- Abdominal sonography – Extended Adult
- Cardiac sonography
- Obstetrics and gynecology sonography
- Vascular sonography

List provided by CAAHEP/JRC-DMS, Standards and Guidelines 2020

South Hills offers three separate tracks for the Sonography student to prepare for specialized careers in the field of diagnostic ultrasound. Each of these tracks represents a dedicated emphasis in the particular area of specialization. Students in each track follow elective groupings for that track.

Abdominal or OB/GYN Sonography:

The Abdominal and Obstetrics & Gynecology Sonography track prepares the student for specialization in obstetrics/gynecology, abdominal, and small parts Sonography. This program prepares the student for the RDMS® (Registered Diagnostic Medical Sonographer) credential*. At this time, the Abdominal and OB/GYN track is capped at 12 students. At the conclusion of Term 6, students following the Abdominal and OB-GYN curriculum will be required to select an abdominal or OB-GYN based internship. Details of this process will be discussed during the Principles of Sonography course.

Cardiac Sonography: The Cardiac Sonography track prepares the student for specialization in Echocardiography of the adult (ultrasound of the heart). This program prepares the student for the RDCS® (Registered Diagnostic Cardiac Sonographer) or RCS (Registered Cardiac Sonographer) credentials*.

Vascular Sonography: The Vascular track prepares the student for specialization in the field of Vascular Sonography (ultrasound of the arteries in the heart, neck, abdomen and extremities). This program prepares the student for the RVT® (Registered Vascular Technologist) or RVS (Registered Vascular Technologist) credentials*.

Available slots in each of the three tracks are limited. Every effort will be made to grant a student's first specialty choice; however South Hills reserves the right to place students in specialties based on enrollment and internship opportunities. If necessary, South Hills will utilize a GPA/lottery system to place students in the specialties.

*RDMS, RDCS and RVT are credentials earned through the American Registry for Diagnostic Medical Sonography (RDMS-Registered Diagnostic Medical Sonographer, RDCS-Registered Diagnostic Cardiac Sonographer (adult) & RVT- Registered Vascular Technologist). RCS or RVS are credentials earned through Cardiovascular Credentialing International (RCS-Registered Cardiac Sonographer or RVS-Registered Vascular Sonographer). For more information, visit www.ardms.org and/or www.cci-online.org.

The Sonography program curriculum is designed to follow a specific progression of classes to be completed within the designated time frame. The student must maintain full time status to be enrolled in the Diagnostic Medical Sonography program. Certain exceptions may apply for students who have prior degree or collegiate experience with transfer credits; however, this exception must be approved by the DMS Program Director.

Withdrawal Based on Inability to Meet Academic Requirements

Students in the DMS program must earn a "B-" or better in Applied Algebra and a "C+" or better in all other classes. Failure to meet the minimum grade requirement results in the following:

- **Terms 1-3** - Students who receive one grade below the minimum grade requirement in any course will be withdrawn from the program but may reapply the following year. Readmission will be granted based on an interview with the DMS faculty and only if seats are available.
- **Terms 1-3** - Students who receive more than one grade below the minimum grade requirement will be withdrawn from the program and may not apply for reinstatement. The student may, however, be eligible to transfer to another program.
- **Terms 4-9** – Students who receive one or more grades below "C+" in any course will be withdrawn from the program and may not apply for reinstatement unless an appeal has been granted. The student may, however, be eligible to transfer to another program.

The Diagnostic Medical Sonography AST degree program is accredited by the Commission for Accreditation of Allied Health Education Programs (CAAHEP). Graduates may apply to take the ARDMS or CCI certification examinations immediately upon completion of the program. Students may apply to take the ARDMS Sonography Principles and Instrumentation prior to the start of internship and may apply to take the specialty examination 60 days prior to graduation. Students may also apply to take the CCI certification prior to graduation.

Practice Parameters and Technical Standards*

- Excellent written and verbal English communication skills
- Full use of both hands and wrists
- Ability to lift and move 50 pounds
- Ability to stand for extended periods of time
- Ability to visualize in dimly lit settings
- Ability to hear Doppler audio signals

*A complete description of technical standards for the Diagnostic Medical Sonographer profession based on ADA requirements can be found at the U.S. Bureau of Labor Statistics.

DMS Program Requirements:

- Completion of required immunizations and health record documentation*
- Completion of drug history and testing**

*Students are required to obtain the following health information, vaccines and titers:

- Hepatitis B
- MMR
- Varicella
- Flu shot (season prior to start of internship)
- Physical (one year prior to internship)

TB/PPD testing is required prior to internship and will be coordinated by the DMS faculty. Costs for these requirements are included in the program's course charges.

Documentation of various health records are required for participation in clinical internship. It is the decision of the clinical sites, not South Hills School, if and what immunizations are required for our students. If a student does not comply with the stated facility health immunization requirements, we cannot guarantee clinical internship placement.

**Drug testing is required for internship site placement and may also be conducted at random times throughout the program. A positive test result for any illegal drug or controlled substance will result in immediate disqualification and dismissal from the program. Prohibited substances include, but are not limited to: amphetamines, barbiturates, benzodiazepines, cocaine metabolites, methadone, methaqualone, opiates, phencyclidine, and propoxyphene. Costs for drug screening is included in the program's course charges.

Many health care facilities will no longer hire applicants who use tobacco products, including cigarettes, cigars and chewing or smokeless tobacco. Applicants for employment at these facilities may be screened for nicotine as part of the pre-employment physical examination process, and those who test positive for nicotine will not be considered for employment.

The Diagnostic Medical Sonography program is offered at the State College location.

DIAGNOSTIC MEDICAL SONOGRAPHY
AST Degree Program
135.0 credits/2302 clock hours/34 months

Code	Course	Credits	Clock Hours
First Term			
MD102	Anatomy & Physiology I	5.5	60
MD103	Anatomy & Physiology I Lab	0.5	10
GE117	Applied Algebra	4.0	60
PD120	Professional Development for DMS	1.0	12
MD108	Medical Terminology I	3.0	36
		14.0	178
Second Term			
MD106	Anatomy & Physiology II	5.5	60
MD107	Anatomy & Physiology II Lab	0.5	10
GE230	Applied Algebra II	4.0	60
MD109	Medical Terminology II	3.0	36
		13.0	166

Third Term			
DS251	Applied Physics for DMS	4.5	60
DS255	Applied Physics for DMS Lab	0.5	10
HI102	Pathophysiology	5.5	60
GE260	Statistical Applications	3.0	36
		13.5	166
Fourth Term			
GE207	Applied Psychology in Health Care	3.0	36
GE186	Business English Essentials	4.0	60
DM208	Introduction to Medical Imaging	2.5	36
MG119	Management Essentials	2.0	30
GE213	Oral Business Communications	2.0	24
		13.5	186
Fifth Term			
DM211	Cross Sectional Anatomy for Sonography	1.5	24
DM212	Embryology for the Sonographer	2.5	36
DM213	Law & Ethics in Sonography	2.5	36
DM209	Patient Care	2.5	36
DM214	Principles of Sonography	2.5	36
DM240	Ultrasound Physics & Instrumentation I	2.5	36
		14.0	204
Sixth Term			
DM236	Abdominal Pathophysiology I	3.0	36
DM237	Abdominal Pathophysiology I Lab	1.0	20
DM215	Ultrasound Physics & Instrumentation II	3.5	48
	Cardiac Elective Grouping OR	11.0	148
	Abdominal & OB/GYN Elective Grouping OR	(11.0)	(148)
	Vascular Elective Grouping	(11.0)	(148)
		18.5	252
	Cardiac Elective Grouping		
DS257	Cardiac Pathophysiology I	3.0	36
DM228	Cardiac Pathophysiology I Lab	1.0	20
DS275	Echocardiography I	3.0	36
DM226	Echocardiography I Lab	1.0	20
DM230	Principles of Cardiovascular Technology	3.0	36

	Abdominal or OB/GYN Elective Grouping		
DM218	Clinical Obstetrics	3.0	36
DS283	Gynecologic Ultrasound	3.0	36
DM216	Gynecologic Ultrasound I Lab	1.0	20
DS290	Obstetric Ultrasound	3.0	36
DM217	Obstetric Ultrasound Lab	1.0	20

	Vascular Elective Grouping		
DM230	Principles of Cardiovascular Technology	3.0	36
DS268	Vascular Pathophysiology	3.0	36
DM229	Vascular Pathophysiology Lab	1.0	20
DS282	Vascular Technology I	3.0	36
DM227	Vascular Technology I Lab	1.0	20

NOTE: First Aid & CPR-AHA is required prior to internship.

Seventh Term

	Cardiac Elective Grouping OR	17.5	244
	Abdominal & OB/GYN Elective Grouping OR	(17.5)	(244)
	Vascular Elective Grouping	(17.5)	(244)
		17.5	244

	Cardiac Elective Grouping		
DM241	Advanced Imaging Technologies	1.5	24
DM246	Cardiac Pathophysiology II	3.0	36
DM231	Cardiac Pathophysiology II Lab	1.0	20
DM247	Echocardiography II	3.0	36
DM233	Echocardiography II Lab	1.0	20
DM242	Echocardiography Special Topics	3.0	36
DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36

	Abdominal or OB/GYN Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24
DM248	Obstetric & Gynecologic Ultrasound II	3.0	36

DM221	Obstetric & Gynecologic Ultrasound II Lab	1.0	20
DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36
DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36
	Vascular Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24
DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36
DM250	Vascular Technology II	3.0	36
DM234	Vascular Technology II Lab	2.0	36
DM251	Vascular Ultrasound Special Topics	3.0	36
DM232	Vascular Ultrasound Special Topics Lab	1.0	20

Eighth Term

DM254	Clinical Internship I	12	360
DM224	Professional Development for the Sonographer I	1.0	18
		13	378

Ninth Term

DM255	Clinical Internship II	17.0	510
DM225	Professional Development for the Sonographer II	1.0	18
		18.0	528

Students select one of the following elective groups:

- Cardiac
- Abdominal & OB/GYN
- Vascular

COURSE DESCRIPTION

DM236 ABDOMINAL PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course is taught concurrently with Abdominal Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM237 ABDOMINAL PATHOPHYSIOLOGY I LAB (1.0 credit/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, and bile ducts will be taught. Details of proper imaging technique of each organ, including transducer selection, patient position, and scan technique will be described and demonstrated. This course is taught concurrently with Abdominal Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

MD102 ANATOMY & PHYSIOLOGY I (5.5 credits/60 clock hours) This course begins with an introduction to the human body which includes the chemical, cellular, and tissue level of organization. Then it progresses to comprehensive anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. Lab projects will be coordinated with specific systems. Prerequisites: None.

MD103 ANATOMY & PHYSIOLOGY I LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology I. Prerequisite: Must be taken concurrently with Anatomy & Physiology I.

MD106 ANATOMY & PHYSIOLOGY II (5.5 credits/60 clock hours) This course is a continuation of comprehensive anatomy and physiology covering the following body systems: sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Laboratory projects will be coordinated with specific systems. Prerequisites: Anatomy & Physiology I and Medical Terminology I.

MD107 ANATOMY & PHYSIOLOGY II LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology II. Prerequisites: Anatomy & Physiology I, Anatomy & Physiology I Lab. Must be taken concurrently with Anatomy & Physiology II.

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. Prerequisite: None.

GE230 APPLIED ALGEBRA II (4.0 credits/60 clock hours) Applied Algebra II is designed to expand on the concepts developed in Applied Algebra. The topics covered are scientific notation, review of measurements, operations of real numbers, polynomials, factoring, operations of rational expressions, simplifying radicals, solving equations and inequalities, and solving systems of equations. Each concept will involve word problems that are applied in both business and technical careers. This course forms a mathematical foundation for physics and courses in electronics. Prerequisite: Applied Algebra.

DS251 APPLIED PHYSICS FOR DMS (4.5 credits/60 clock hours) An algebra-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound, as they are applied to medical sonography. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program.

DS255 APPLIED PHYSICS FOR DMS LAB (.5 credits/10 clock hours) A lab-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program. This course is taken concurrently with Applied Physics for DMS.

GE207 APPLIED PSYCHOLOGY IN HEALTHCARE (3.0 credits/36 clock hours) The relationship of psychology and states of consciousness to behavior are explored. Topics of study include an introduction to the areas of health psychology, personality, grieving, function, dysfunction, beliefs, common disorders, and caregiving. Emphasis is placed on the application of these principles in the student's work in the healthcare field. Prerequisite: None

GE186 BUSINESS ENGLISH ESSENTIALS (4.0 credits/60 clock hours) Students will study, learn, practice, and apply the current norms of effective oral and written communication skills essential for success in business. Additionally, in order to prepare students to be effective business writing communicators in the field of Diagnostic Medical Sonography, they will compose various applied business messages. Prerequisite: None.

DM211 CROSS SECTIONAL ANATOMY FOR SONOGRAPHY (1.5 credits/24 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have and understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM212 EMBRYOLOGY FOR THE SONOGRAPHER (2.5 credits/36 clock hours) Embryology for the Sonographer investigates the development of human organs and body systems. The class will illustrate the normal human developmental process, explore the link between normal and abnormal gross anatomy, and connect the developmental stages. Knowledge and comprehension of the developmental process will assist the sonographer in the recognition of normal anatomy and pathologic processes during exams. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM208 INTRODUCTION TO MEDICAL IMAGING (2.5 credits/36 clock hours) Introduction to various diagnostic imaging modalities in use today and the history of each modality is presented which includes Radiography, Computed Tomography, Magnetic Resonance Imaging, Nuclear

Medicine and Ultrasound. Upon completion of the course the student will understand the advantages and disadvantages of each imaging modality when looking for pathology. The student will understand the importance of each modality and its contribution to the diagnostic imaging world. An introduction to PACS, RIS, HIS, EMR systems and their connection to patient records and image archive platforms are presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs

DM213 LAW AND ETHICS IN SONOGRAPHY (2.5 credits/36 clock hours) Various medical/legal/ethical situations will be presented and discussed. Medical malpractice and negligence will be highlighted with multiple court cases and possible scenarios researched and reviewed. Ethical and legal standards of the sonography professional will be presented. Discussion of how to professionally relate to various cultures will be conducted. The legal responsibility of sonographers when dealing with documentation, record keeping, privacy and confidentiality will be introduced. Other topics to be covered include patient rights, labor law, employment discrimination laws, risk management, and safety regulations and practices. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

MG119 MANAGEMENT ESSENTIALS (2.0 credits/30 clock hours) Concepts of management are explored from a practical perspective. The four functions of management (planning, organizing, leading and controlling) are examined. Team development, conflict causes and resolution, communication, and leadership are practiced. Employee evaluations and exit interviews are constructed and compared. The management hierarchy is studied and special emphasis is placed on the skills required for effective supervision/management in the healthcare industry. Prerequisite: None

MD108 MEDICAL TERMINOLOGY I (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems presented in Anatomy & Physiology I. Prerequisite: Taken concurrently with Anatomy & Physiology I

MD109 MEDICAL TERMINOLOGY II (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems. Prerequisite: Medical Terminology I.

GE213 ORAL BUSINESS COMMUNICATIONS (2.0 credit/24 clock hours) This applied communications course teaches the fundamentals of oral business communication with emphasis on improving speaking and listening skills in the workplace. This course will help students create informational speeches and familiarize students with formal speech preparation, business presentation skills, and effective nonverbal communication. Prerequisite: None.

HI102 PATHOPHYSIOLOGY (5.5 credits/60 clock hours) This course is a study of abnormal anatomy and physiology associated with prominent clinical disease processes. Emphasis is placed on the nature, cause, diagnosis, treatment, and management of these conditions. Topics include diagnostic methods, interpretation of laboratory tests, and drug therapies. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

DM209 PATIENT CARE (2.5 credits/36 clock hours) Presentation of simple to advanced patient care techniques such as moving patients, taking a history, managing patients with IV's, proper aseptic techniques, and infection control procedures. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM214 PRINCIPLES OF SONOGRAPHY (2.5 credits/36 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation. The various ultrasound subspecialties, opportunities within sonography and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs

PD120 PROFESSIONAL DEVELOPMENT FOR DMS (1.0 credits/12 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time and money management, professionalism, attitude, study skills, personal responsibility and teamwork. Prerequisites: None

GE260 STATISTICAL APPLICATIONS (3.0 credits/36 clock hours) This course is designed to give the Diagnostic Medical Sonography student a basic knowledge of the statistics used in today's business world. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas will be covered: data classification, collection of data, introduction to sampling concepts, descriptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of variation and position, normal distribution and an introduction to probability. Prerequisite: Applied Algebra.

DM240 ULTRASOUND PHYSICS & INSTRUMENTATION I (2.5 credits/36 clock hours) This course presents the basic physics of diagnostic ultrasound, including properties of pulse-echo ultrasound, display modes, instrumentation, and resolution. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM215 ULTRASOUND PHYSICS & INSTRUMENTATION II (3.5 credits/48 clock hours) This course is a continuation of Ultrasound Physics & Instrumentation I and includes discussion of the Doppler effect, calculation of flow velocities via the Doppler equation, spectral analysis, and color Doppler. Covers properties of Doppler ultrasound instruments such as pulse repetition frequency (PRF), aliasing, and Nyquist limit.

Includes discussion of power and intensity measurements of ultrasound instruments. Presents new technology including elastography, fusion imaging, and virtual beam formation. Prerequisite: Ultrasound Physics & Instrumentation I. Must be enrolled in DMS, DPP, or DMP programs.

DS257 CARDIAC PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course is taken concurrently with Cardiac Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM228 CARDIAC PATHOPHYSIOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the adult heart will be taught. This course is taken concurrently with Cardiac Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS275 ECHOCARDIOGRAPHY I (3.0 credits/36 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods will be demonstrated. This course is taken concurrently with Echocardiography I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM226 ECHOCARDIOGRAPHY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of cardiac anatomy, physiology, hemodynamics and systolic function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Left hand cardiac scanning will be presented initially. This course is taken concurrently with Echocardiography I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM218 CLINICAL OBSTETRICS (3.0 credits/36 clock hours) This course begins with endocrinology of ovulation, fertilization and implantation, moving on to embryology and progressive development of the fetal and maternal structures throughout the first, second and third trimesters. Physiology and pathophysiology of the placenta are discussed. Emergent conditions such as ectopic pregnancy, placenta abruptio, and impending abortion (miscarriage) are presented. Congenital anomalies, syndromes, intrauterine growth retardation, and other pathologies involving the developing fetus are discussed. Fetal presentation and problems of labor and delivery are covered. Other obstetrical subjects including multigestation, infertility and IVF procedures, development and teratology, hypertension in pregnancy, Rh disease complications and OB testing procedures are covered. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS283 GYNECOLOGIC ULTRASOUND I (3.0 credits/36 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course is taught concurrently with a hands-on scanning lab in Gynecologic Ultrasound I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM216 GYNECOLOGIC ULTRASOUND I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the female pelvic anatomy including the uterus, ovaries and other pelvic structures will be demonstrated and practiced. The course is taught concurrently with Gynecologic Ultrasound I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS290 OBSTETRIC ULTRASOUND (3.0 credits/36 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves onto fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course is taught concurrently with Obstetric Ultrasound Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM217 OBSTETRIC ULTRASOUND LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the uterus, ovaries and female pelvic structures will be taught as well as fetal anatomy, placenta, amniotic fluid, cervix and umbilical cord. This course is taught concurrently with Obstetric Ultrasound. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS268 VASCULAR PATHOPHYSIOLOGY (3.0 credits/36 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is taught concurrently with Vascular Pathophysiology Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM229 VASCULAR PATHOPHYSIOLOGY LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Duplex assessment of the anatomy, physiology and pathophysiology of the vascular system will be taught in conjunction with Vascular Pathophysiology. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS282 VASCULAR TECHNOLOGY I (3.0 credit/36 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM227 VASCULAR TECHNOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course teaching full vascular ultrasound protocols such as ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to the most common vascular ultrasound, with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM246 CARDIAC PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course will be taken concurrently with Cardiac Pathophysiology II Lab. Prerequisite: Cardiac Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM231 CARDIAC PATHOPHYSIOLOGY II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Advanced assessment of the anatomy and physiology of the adult heart will be taught. This course will be taken concurrently with Cardiac Pathophysiology II. Prerequisite: Cardiac Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM247 ECHOCARDIOGRAPHY II (3.0 credits/36 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain, will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course is taken concurrently with Echocardiography II Lab. Prerequisite: Echocardiography I. Must be enrolled in DMS, DPP, or DMP programs.

DM233 ECHOCARDIOGRAPHY II LAB (1.0 credits/20 clock hours) This course is a continuation of Echocardiography I Lab and is an integrated, hands-on scanning course with required competency assessments. More advanced assessments of cardiac anatomy, physiology, hemodynamics systolic function and valvular function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Right hand cardiac scanning will be introduced. This course will be taken concurrently with Echocardiography II. Prerequisite: Echocardiography I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM242 ECHOCARDIOGRAPHY SPECIAL TOPICS (3.0 credits/36 clock hours) In depth presentation of 2D, Color and Doppler principles related to all types of valvular stenosis, insufficiency and prosthetic valve evaluation will be discussed. Advanced Doppler analysis related to Valvular disease and changing cardiac pressures and their application /correlation with cardiac angiography will be reviewed. Congenital heart disease in the adult population is introduced with emphasis on 2D and Doppler quantification necessary for evaluation of complex hemodynamics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous

applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM248 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (3.0 credits/36 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound I. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II Lab. Prerequisite: Gynecologic Ultrasound and Obstetric Ultrasound. Must be enrolled in DMS, DPP, or DMP programs.

DM221 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Emphasis on the techniques used in scanning the pelvis of all ages. Spectral Doppler and color Doppler applications in obstetrics and gynecology will be demonstrated and practiced. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II. Prerequisite: Gynecologic Ultrasound Lab and Obstetric Ultrasound Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic

conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM250 VASCULAR TECHNOLOGY II (3.0 credits/36 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology II Lab. Prerequisite: Vascular Technology I. Must be enrolled in DMS, DPP, or DMP programs.

DM234 VASCULAR TECHNOLOGY II LAB (2.0 credits/36 clock hours) This course is an integrated, hands-on scanning course taught as a continuation of Vascular Technology I Lab. It teaches full vascular ultrasound protocols including lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to these protocols with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology II. Prerequisite: Vascular Technology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM251 VASCULAR ULTRASOUND SPECIAL TOPICS (3.0 credits/36 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous case presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course is taught concurrently with Vascular Ultrasound Special Topics Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM232 VASCULAR ULTRASOUND SPECIAL TOPICS LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments of the topics demonstrated as part of Vascular Ultrasound Special Topics. This course is taught concurrently with Vascular Ultrasound Special Topics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM254 CLINICAL INTERNSHIP I (12.0 credits/360 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM285 CLINICAL INTERNSHIP II (17 credits/510 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Clinical Internship I. Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM224 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER I (1.0 credits/18 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional

requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM225 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER II (1.0 credits/18 clock hours) This course is a continuation of Professional Development for the Sonographer I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Professional Development for the Sonographer I. Must be enrolled in DMS, DPP, or DMP programs.

Diagnostic Medical Sonography Professional

Sonography is a multi-specialty profession that uses ultrasound as its primary technology to evaluate and record images of various parts of the body. The sonographer/ultrasound technologist performs each exam methodically while treating the patient with care and compassion. Images obtained by the sonographer/ultrasound technician help physicians assess and diagnose medical conditions. Many sonographers/ultrasound technologists assist physicians and surgeons during minimally invasive procedures such as biopsies and injections as well as surgical procedures.

The field of sonography requires a commitment to patient care and self-improvement by participating in life-long learning, expanding knowledge and technical skill. Ethical judgment and critical thinking are crucial in performing each exam safely and effectively.

This diploma program is designed for applicants with a previous degree or diploma or equivalent in a medical imaging specialty such as Radiologic Technology or Nuclear Medicine Technology. To be eligible for the DMP pathway, applicants are required to be:

- A Certified Radiology Technician (submit certification information) and/or
- A graduate of an RT program in which a formal articulation agreement is in place and/or
- Enrolled in a medical imaging baccalaureate degree program at another institution in which a formal articulation agreement is in place (more information below.

The program objectives and employment outcomes are the same for the Diagnostic Medical Sonography AST degree program, and the Diagnostic Medical Sonography Professional and Diagnostic Medical Sonography Professional Plus diplomas programs; the difference is the amount and type of education the student has prior to entering the program. Our DMP diploma program provides a shorter program length option for those students who have completed relevant technical and general education coursework in a previous degree.

Upon completion of the Diagnostic Medical Sonography Professional program, the graduate will be awarded a diploma. The graduate may find employment in several different environments including, hospitals, clinics, or physician's offices as an entry level Cardiac Sonographer, Vascular Sonographer, Abdominal Sonographer or OB/Gyn Sonographer. More information about the sonography profession is available at www.sdms.org, www.asecho.org and www.svunet.org.

The Diagnostic Medical Sonography Professional program prepares students to:

1. Demonstrate and perform proper patient care and interaction during sonography exams.
2. Recognize and interpret anatomy and pathology on ultrasound images.
3. Perform exams of diagnostic quality related to their specialty.

Minimum Expectations:

Abdominal or OB/GYN Track:

"To prepare competent entry-level abdominal & OB/GYN sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

Adult Cardiac Track:

"To prepare competent entry-level adult cardiac sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

Vascular Track:

"To prepare competent entry-level vascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

List provided by CAAHEP/ JRC-DMS, Standards and Guidelines 2021

South Hills offers three separate tracks for the Sonography student to prepare for specialized careers in the field of diagnostic ultrasound. Each of these tracks represents a dedicated emphasis in the particular area of specialization. Students in each track follow elective groupings for that track.

Abdominal or OB/GYN Sonography: The Abdominal or OB/GYN Sonography track prepares the student for specialization in obstetrics/gynecology, abdominal, and small parts Sonography. This program prepares the student for the RDMS® (Registered Diagnostic Medical Sonographer) credential*. At this time, the Abdominal or OB/GYN track is capped at 12 students. At the conclusion of Term 3, students following the Abdominal or OB-GYN curriculum will be required to select an abdominal or OB-GYN based internship. Details of this process will be discussed during the Principles of Sonography course.

Cardiac Sonography: The Cardiac Sonography track prepares the student for specialization in Echocardiography of the adult (ultrasound of the heart). This program prepares the student for the RDCS® (Registered Diagnostic Cardiac Sonographer) or RCS (Registered Cardiac Sonographer) credentials*.

Vascular Sonography: The Vascular track prepares the student for specialization in the field of Vascular Sonography (ultrasound of the arteries in the heart, neck, abdomen and extremities). This program prepares the student for the RVT® (Registered Vascular Technologist) or RVS (Registered Vascular Technologist) credentials*.

Available slots in each of the three tracks are limited. Every effort will be made to grant a student's first specialty choice; however South Hills reserves the right to place students in specialties based on enrollment and internship opportunities. If necessary, South Hills will utilize a GPA/lottery system to place students in the specialties

*RDMS, RDCS and RVT are credentials earned through the American Registry for Diagnostic Medical Sonography (RDMS-Registered Diagnostic Medical Sonographer, RDCS-Registered Diagnostic Cardiac Sonographer (adult) & RVT- Registered Vascular Technologist). RCS or RVS are credentials earned through Cardiovascular Credentialing International (RCS-Registered Cardiac Sonographer or RVS-Registered Vascular Sonographer). For more information, visit www.ardms.org and/or www.cci-online.org.

The Sonography program curriculum is designed to follow a specific progression of classes to be completed within the designated time frame. The student must maintain full time status to be enrolled in the Diagnostic Medical Sonography Professional program. Certain exceptions may apply for students who have prior degree or collegiate experience with transfer credits; however, this exception must be approved by the DMS Program Director.

Any deviation from the listed curriculum must be requested in writing and approved by the DMS Faculty committee. Each case is reviewed on an individual basis.

Withdrawal Based on Inability to Meet Academic Requirements

Students in the DMP program must earn a "C+" or better in all classes. Students who receive one or more grades below "C+" in any course will be withdrawn from the program and may not apply for reinstatement unless an appeal has been granted. The student may, however, be eligible to transfer to another program.

The Diagnostic Medical Sonography Professional program is accredited by the Commission for Accreditation of Allied Health Education Programs (CAAHEP). Graduates may apply to take the ARDMS or CCI certification examinations immediately upon completion of the program. Students may apply to take the ARDMS Sonography Principles and Instrumentation prior to the start of internship and may apply to take the specialty examination 60 days prior to graduation. Students may also apply to take the CCI certification prior to graduation.

Practice Parameters and Technical Standards*

- Excellent written and verbal English communication skills
- Full use of both hands and wrists
- Ability to lift and move 50 pounds
- Ability to stand for extended periods of time
- Ability to visualize in dimly lit settings
- Ability to hear Doppler audio signals

*A complete description of technical standards for the Diagnostic Medical Sonographer profession based on ADA requirements can be found at the U.S. Bureau of Labor Statistics.

DMP Program Requirements:

- Completion of required immunizations and health record documentation*
- Completion of drug history and testing**

Students are required to obtain the following health information, vaccines and titers:

- Hepatitis B
- MMR
- Varicella
- Flu shot (season prior to start of internship)
- Physical (one year prior to internship)

TB/PPD testing is required prior to internship and will be coordinated by the DMS faculty. Costs for these requirements are included in the program's course charges.

Documentation of various health records are required for participation in clinical internship. It is the decision of the clinical sites, not South Hills School, if and what immunizations are required for our students. If a student does not comply with the stated facility health immunization requirements, we cannot guarantee clinical internship placement.

**Drug testing is required for internship site placement and may also be conducted at random times throughout the program. A positive test result for any illegal drug or controlled substance will result in immediate disqualification and dismissal from the program. Prohibited substances include, but are not limited to: amphetamines, barbiturates, benzodiazepines, cocaine metabolites, methadone, methaqualone, opiates, phencyclidine, and propoxyphene. Costs for drug screening is included in the program's course charges.

Many health care facilities will no longer hire applicants who use tobacco products, including cigarettes, cigars and chewing or smokeless tobacco. Applicants for employment at these facilities may be screened for nicotine as part of the pre-employment physical examination process and those who test positive for nicotine will not be considered for employment.

Disclaimer: The order of courses, exact courses, course credits and/or hours are subject to change. Should a change occur, the school will notify the student of the exact course, course credits, and/or hour changes by email, using the student's school-provided email address. If the overall program length or cost changes before the student begins the program, the student will receive a new enrollment agreement for his/her signature. Tuition increases subsequent to starting the program will be communicated, in writing, at least 60 days in advance of the change and will not require the generation of a new enrollment agreement. The written notification will serve as an amendment to the original enrollment agreement.

The Diagnostic Medical Sonography Professional program is offered at the State College location.

DIAGNOSTIC MEDICAL SONOGRAPHY PROFESSIONAL
Diploma Program
81.0 credits/1606 clock hours/19 months

Code	Course	Credits	Clock Hours
First Term			
DM211	Cross Sectional Anatomy for Sonography	1.5	24
DM212	Embryology for the Sonographer	2.5	36
DM213	Law & Ethics in Sonography	2.5	36
DM209	Patient Care	2.5	36
DM214	Principles of Sonography	2.5	36
DM240	Ultrasound Physics & Instrumentation I	2.5	36
		14.0	204
Second Term			
DM236	Abdominal Pathophysiology I	3.0	36
DM237	Abdominal Pathophysiology I Lab	1.0	20
DM215	Ultrasound Physics & Instrumentation II	3.5	48
	Cardiac Elective Grouping OR	11.0	148

	Abdominal & OB/GYN Elective Grouping OR	(11.0)	(148)
	Vascular Elective Grouping	(11.0)	(148)
		18.5	252
	Cardiac Elective Grouping		
DS257	Cardiac Pathophysiology I	3.0	36
DM228	Cardiac Pathophysiology I Lab	1.0	20
DS275	Echocardiography I	3.0	36
DM226	Echocardiography I Lab	1.0	20
DM230	Principles of Cardiovascular Technology	3.0	36
	Abdominal or OB/GYN Elective Grouping		
DM218	Clinical Obstetrics	3.0	36
DS283	Gynecologic Ultrasound	3.0	36
DM216	Gynecologic Ultrasound Lab	1.0	20
DS290	Obstetric Ultrasound	3.0	36
DM217	Obstetric Ultrasound Lab	1.0	20
	Vascular Elective Grouping		
DM230	Principles of Cardiovascular Technology	3.0	36
DS268	Vascular Pathophysiology	3.0	36
DM229	Vascular Pathophysiology Lab	1.0	20
DS282	Vascular Technology I	3.0	36
DM227	Vascular Technology I Lab	1.0	20

NOTE: First Aid & CPR-AHA is required prior to internship.

Third Term

	Cardiac Elective Grouping OR	17.5	244
	Abdominal & OB/GYN Elective Grouping OR	(17.5)	(244)
	Vascular Elective Grouping	(17.5)	(244)
		17.5	244
	Cardiac Elective Grouping		
DM241	Advanced Imaging Technologies	1.5	24
DM246	Cardiac Pathophysiology II	3.0	36
DM231	Cardiac Pathophysiology II Lab	1.0	20
DM247	Echocardiography II	3.0	36
DM233	Echocardiography II Lab	1.0	20
DM242	Echocardiography Special Topics	3.0	36

DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36

	Abdominal or OB/GYN Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24
DM248	Obstetric & Gynecologic Ultrasound II	3.0	36
DM221	Obstetric & Gynecologic Ultrasound II Lab	1.0	20
DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36
DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36

	Vascular Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24
DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36
DM250	Vascular Technology II	3.0	36
DM234	Vascular Technology II Lab	2.0	36
DM251	Vascular Ultrasound Special Topics	3.0	36
DM232	Vascular Ultrasound Special Topics Lab	1.0	20

Fourth Term

DM254	Clinical Internship I	12.0	360
DM224	Professional Development for the Sonographer I	1.0	18
		13.0	378

Fifth Term

DM255	Clinical Internship II	17.0	510
DM225	Professional Development for the Sonographer II	1.0	18
		18.0	528

Students select one of the following elective groups:

- cardiac
- Abdominal or OB/GYN
- Vascular

COURSE DESCRIPTION

DM236 ABDOMINAL PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course is taught concurrently with Abdominal Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM237 ABDOMINAL PATHOPHYSIOLOGY I LAB (1.0 credit/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, and bile ducts will be taught. Details of proper imaging technique of each organ, including transducer selection, patient position, and scan technique will be described and demonstrated. This course is taught concurrently with Abdominal Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM211 CROSS SECTIONAL ANATOMY FOR SONOGRAPHY (1.5 credits/24 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have and understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM212 EMBRYOLOGY FOR THE SONOGRAPHER (2.5 credits/36 clock hours) Embryology for the Sonographer investigates the development of human organs and body systems. The class will illustrate the normal human developmental process, explore the link between normal and abnormal gross anatomy, and connect the developmental stages. Knowledge and comprehension of the developmental process will assist the sonographer in the recognition of normal anatomy and pathologic processes during exams. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM213 LAW AND ETHICS IN SONOGRAPHY (2.5 credits/36 clock hours) Various medical/legal/ethical situations will be presented and discussed. Medical malpractice and negligence will be highlighted with multiple court cases and possible scenarios researched and reviewed. Ethical and legal standards of the sonography professional will be presented. Discussion of how to professionally relate to various cultures will be conducted. The legal responsibility of sonographers when dealing with documentation, record keeping, privacy and confidentiality will be introduced. Other topics to be covered include patient rights, labor law, employment discrimination laws, risk management, and safety regulations and practices. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM209 PATIENT CARE (2.5 credits/36 clock hours) Presentation of simple to advanced patient care techniques such as moving patients, taking a history, managing patients with IV's, proper aseptic techniques, and infection control procedures. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM214 PRINCIPLES OF SONOGRAPHY (2.5 credits/36 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation The various ultrasound subspecialties, opportunities within sonography and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM240 ULTRASOUND PHYSICS & INSTRUMENTATION I (2.5 credits/36 clock hours) This course presents the basic physics of diagnostic ultrasound, including properties of pulse-echo ultrasound, display modes, instrumentation, and resolution. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM215 ULTRASOUND PHYSICS & INSTRUMENTATION II (3.5 credits/48 clock hours) This course is a continuation of Ultrasound Physics & Instrumentation I and includes discussion of the Doppler effect, calculation of flow velocities via the Doppler equation, spectral analysis, and color Doppler. Covers properties of Doppler ultrasound instruments such as pulse repetition frequency (PRF), aliasing, and Nyquist limit. Includes discussion of power and intensity measurements of ultrasound instruments. Presents new technology including elastography, fusion imaging, and virtual beam formation. Prerequisite: Ultrasound Physics & Instrumentation I. Must be enrolled in DMS, DPP, or DMP programs.

DS257 CARDIAC PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course is taken concurrently with Cardiac Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM228 CARDIAC PATHOPHYSIOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the adult heart will be taught. This course is taken concurrently with Cardiac Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS275 ECHOCARDIOGRAPHY I (3.0 credits/36 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods

will be demonstrated. This course is taken concurrently with Echocardiography I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM226 ECHOCARDIOGRAPHY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of cardiac anatomy, physiology, hemodynamics and systolic function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Left hand cardiac scanning will be presented initially. This course is taken concurrently with Echocardiography I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM218 CLINICAL OBSTETRICS (3.0 credits/36 clock hours) This course begins with endocrinology of ovulation, fertilization and implantation, moving on to embryology and progressive development of the fetal and maternal structures throughout the first, second and third trimesters. Physiology and pathophysiology of the placenta are discussed. Emergent conditions such as ectopic pregnancy, placenta abruptio, and impending abortion (miscarriage) are presented. Congenital anomalies, syndromes, intrauterine growth retardation, and other pathologies involving the developing fetus are discussed. Fetal presentation and problems of labor and delivery are covered. Other obstetrical subjects including multigestation, infertility and IVF procedures, development and teratology, hypertension in pregnancy, Rh disease complications and OB testing procedures are covered. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS283 GYNECOLOGIC ULTRASOUND I (3.0 credits/36 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course is taught concurrently with a hands-on scanning lab in Gynecologic Ultrasound I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM216 GYNECOLOGIC ULTRASOUND I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the female pelvic anatomy including the uterus, ovaries and other pelvic structures will be demonstrated and practiced. The course is taught concurrently with Gynecologic Ultrasound I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS290 OBSTETRIC ULTRASOUND (3.0 credits/36 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves onto fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course is taught concurrently with Obstetric Ultrasound Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM217 OBSTETRIC ULTRASOUND LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the uterus, ovaries and female pelvic structures will be taught as well as fetal anatomy, placenta, amniotic fluid, cervix and umbilical cord. This course is taught concurrently with Obstetric Ultrasound. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS268 VASCULAR PATHOPHYSIOLOGY (3.0 credits/36 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is taught concurrently with Vascular Pathophysiology Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM229 VASCULAR PATHOPHYSIOLOGY LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Duplex assessment of the anatomy, physiology and pathophysiology of the vascular system will be taught in conjunction with Vascular Pathophysiology. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS282 VASCULAR TECHNOLOGY I (3.0 credit/36 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular

ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM227 VASCULAR TECHNOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course teaching full vascular ultrasound protocols such as ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to the most common vascular ultrasound, with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM246 CARDIAC PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course will be taken concurrently with Cardiac Pathophysiology II Lab. Prerequisite: Cardiac Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM231 CARDIAC PATHOPHYSIOLOGY II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Advanced assessment of the anatomy and physiology of the adult heart will be taught. This course will be taken concurrently with Cardiac Pathophysiology II. Prerequisite: Cardiac Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM247 ECHOCARDIOGRAPHY II (3.0 credits/36 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain, will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course is taken concurrently with Echocardiography II Lab. Prerequisite: Echocardiography I. Must be enrolled in DMS, DPP, or DMP programs.

DM233 ECHOCARDIOGRAPHY II LAB (1.0 credits/20 clock hours) This course is a continuation of Echocardiography I Lab and is an integrated, hands-on scanning course with required competency assessments. More advanced assessments of cardiac anatomy, physiology, hemodynamics systolic function and valvular function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Right hand cardiac scanning will be introduced. This course will be taken concurrently with Echocardiography II. Prerequisite: Echocardiography I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM242 ECHOCARDIOGRAPHY SPECIAL TOPICS (3.0 credits/36 clock hours) In depth presentation of 2D, Color and Doppler principles related to all types of valvular stenosis, insufficiency and prosthetic valve evaluation will be discussed. Advanced Doppler analysis related to Valvular disease and changing cardiac pressures and their application /correlation with cardiac angiography will be reviewed. Congenital heart disease in the adult population is introduced with emphasis on 2D and Doppler quantification necessary for evaluation of complex hemodynamics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM248 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (3.0 credits/36 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound I. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II Lab. Prerequisite: Gynecologic Ultrasound and Obstetric Ultrasound. Must be enrolled in DMS, DPP, or DMP programs.

DM221 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Emphasis on the techniques used in scanning the pelvis of all ages. Spectral Doppler and color Doppler applications in obstetrics and gynecology will be demonstrated and practiced. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II. Prerequisite: Gynecologic Ultrasound Lab and Obstetric Ultrasound Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland,

superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM250 VASCULAR TECHNOLOGY II (3.0 credits/36 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology II Lab. Prerequisite: Vascular Technology I. Must be enrolled in DMS, DPP, or DMP programs.

DM234 VASCULAR TECHNOLOGY II LAB (2.0 credits/36 clock hours) This course is an integrated, hands-on scanning course taught as a continuation of Vascular Technology I Lab. It teaches full vascular ultrasound protocols including lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to these protocols with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology II. Prerequisite: Vascular Technology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM251 VASCULAR ULTRASOUND SPECIAL TOPICS (3.0 credits/36 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous case presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course is taught concurrently with Vascular Ultrasound Special Topics Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM232 VASCULAR ULTRASOUND SPECIAL TOPICS LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments of the topics demonstrated as part of Vascular Ultrasound Special Topics. This course is taught concurrently with Vascular Ultrasound Special Topics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM254 CLINICAL INTERNSHIP I (12.0 credits/360 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM224 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER I (1.0 credits/18 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM255 CLINICAL INTERNSHIP II (17.0 credits/510 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Clinical Internship I. Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM225 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER II (1.0 credits/18 clock hours) This course is a continuation of Professional Development for the Sonographer I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Professional Development for the Sonographer I. Must be enrolled in DMS, DPP, or DMP programs.

Diagnostic Medical Sonography Professional Plus

Sonography is a multi-specialty profession that uses ultrasound as its primary technology to evaluate and record images of various parts of the body. The sonographer/ultrasound technologist performs each exam methodically while treating the patient with care and compassion. Images obtained by the sonographer/ultrasound technician help physicians assess and diagnose medical conditions. Many sonographers/ultrasound technologists assist physicians and surgeons during minimally invasive procedures such as biopsies and injections as well as surgical procedures.

The field of sonography requires a commitment to patient care and self-improvement by participating in life-long learning, expanding knowledge and technical skill. Ethical judgment and critical thinking are crucial in performing each exam safely and effectively.

This diploma program is designed for applicants with a previous Bachelor's degree in a field other than medical imaging. The program objectives and employment outcomes are the same for the Diagnostic Medical Sonography AST degree program, and the Diagnostic Medical Sonography Professional and Diagnostic Medical Sonography Professional Plus diplomas programs; the difference is the amount and type of education the student has prior to entering the program. Our DPP diploma program provides a shorter program length option for those students who have completed relevant general education coursework in a previous degree.

The program includes courses in anatomy, physiology, medical terminology, patient care, and medical imaging sciences. Applicants must have completed the following college level courses prior to admission with a grade of "C" or higher:

- Algebra, Statistics, or higher mathematics courses
- Communication Skills

The Bachelor of Science or Bachelor of Arts degree must have been completed within 15 years of the DPP program start date in order for the applicant to be eligible for this program.

Upon completion of the Diagnostic Medical Sonography Professional Plus program, the graduate will be awarded a diploma. The graduate may find employment in several different environments including, hospitals, clinics, or physician's offices as an entry level Cardiac Sonographer, Vascular Sonographer, Abdominal Sonographer or OB/Gyn Sonographer. More information about the sonography profession is available at www.sdms.org, www.asecho.org and www.svunet.org.

The Diagnostic Medical Sonography Professional Plus program prepares students to:

1. Demonstrate and perform proper patient care and interaction during sonography exams.
2. Recognize and interpret anatomy and pathology on ultrasound images.
3. Perform exams of diagnostic quality related to their specialty.

Minimum Expectations:

Abdominal or OB/GYN Track:

"To prepare competent entry-level Abdominal & OB/GYN sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

Adult Cardiac Track:
"To prepare competent entry-level adult cardiac sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

Vascular Track:
"To prepare competent entry-level vascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains"

List provided by CAAHEP/ JRC-DMS, Standards and Guidelines 2021

South Hills offers three separate tracks for the Sonography student to prepare for specialized careers in the field of diagnostic ultrasound. Each of these tracks represents a dedicated emphasis in the particular area of specialization. Students in each track follow elective groupings for that track.

Abdominal or OB/GYN Sonography: The Abdominal & OB/GYN Sonography track prepares the student for specialization in obstetrics/gynecology, abdominal, and small parts Sonography. This program prepares the student for the RDMS® (Registered Diagnostic Medical Sonographer) credential*. At this time, the Abdominal and OB/GYN track is capped at 12 students. At the conclusion of Term 2, students following the Abdominal or OB-GYN curriculum will be required to select an abdominal or OB-GYN based internship. Details of this process will be discussed during the Principles of Sonography course.

Cardiac Sonography: The Cardiac Sonography track prepares the student for specialization in Echocardiography of the adult (ultrasound of the heart). This program prepares the student for the RDCS® (Registered Diagnostic Cardiac Sonographer) or RCS (Registered Cardiac Sonographer) credentials*.

Vascular Sonography: The Vascular track prepares the student for specialization in the field of Vascular Sonography (ultrasound of the arteries in the heart, neck, abdomen and extremities). This program prepares the student for the RVT® (Registered Vascular Technologist) or RVS (Registered Vascular Technologist) credentials*.

Available slots in each of the three tracks are limited. Every effort will be made to grant a student's first specialty choice; however South Hills reserves the right to place students in specialties based on enrollment and internship opportunities. If necessary, South Hills will utilize a GPA/lottery system to place students in the specialties.

*RDMS, RDCS and RVT are credentials earned through the American Registry for Diagnostic Medical Sonography (RDMS-Registered Diagnostic Medical Sonographer, RDCS-Registered Diagnostic Cardiac Sonographer (adult) & RVT- Registered Vascular Technologist). RCS or RVS are credentials earned through Cardiovascular Credentialing

International (RCS-Registered Cardiac Sonographer or RVSRegistered Vascular Sonographer). For more information, visit www.ardms.org and/or www.cci-online.org.

The Sonography program curriculum is designed to follow a specific progression of classes to be completed within the designated time frame. The student must maintain full time status to be enrolled in the Diagnostic Medical Sonography Professional Plus program. Certain exceptions may apply for students who have prior degree or collegiate experience with transfer credits; however, this exception must be approved by the DMS Program Director.

Any deviation from the listed curriculum must be requested in writing and approved by the DMS Faculty committee. Each case is reviewed on an individual basis.

Withdrawal Based on Inability to Meet Academic Requirements Students in the DPP program must earn a "C+" or better in all classes. Students who receive one or more grades below "C+" in any course will be withdrawn from the program and may not apply for reinstatement unless an appeal has been granted.
The student may, however, be eligible to transfer to another program.

The Diagnostic Medical Sonography Professional Plus program is accredited by the Commission for Accreditation of Allied Health Education Programs (CAAHEP). Graduates may apply to take the ARDMS or CCI certification examinations immediately upon completion of the program. Students may apply to take the ARDMS Sonography Principles and Instrumentation prior to the start of internship and may apply to take the specialty examination 60 days prior to graduation. Students may also apply to take the CCI certification prior to graduation.

Practice Parameters and Technical Standards*

- Excellent written and verbal English communication skills
- Full use of both hands and wrists
- Ability to lift and move 50 pounds
- Ability to stand for extended periods of time
- Ability to visualize in dimly lit settings
- Ability to hear Doppler audio signals

*A complete description of technical standards for the Diagnostic Medical Sonographer profession based on ADA requirements can be found at the U.S. Bureau of Labor Statistics.

DPP Program Requirements:

- Completion of required immunizations and health record documentation*
- Completion of drug history and testing**

*Students are required to obtain the following health information, vaccines and titers:

- Hepatitis B
- MMR
- Varicella
- Flu shot (season prior to start of internship)
- Physical (one year prior to internship)

TB/PPD testing is required prior to internship and will be coordinated by the DMS faculty. Costs for these requirements are included in the program's course charges.

Documentation of various health records are required for participation in clinical internship. It is the decision of the clinical sites, not South Hills School, if and what immunizations are required for our students. If a student does not comply with the stated facility health immunization requirements, we cannot guarantee clinical internship placement.

**Drug testing is required for internship site placement and may also be conducted at random times throughout the program. A positive test result for any illegal drug or controlled substance will result in immediate disqualification and dismissal from the program. Prohibited substances include, but are not limited to: amphetamines, barbiturates, benzodiazepines, cocaine metabolites, methadone, methaqualone, opiates, phencyclidine, and propoxyphene. Costs for drug screening is included in the program's course charges.

Many health care facilities will no longer hire applicants who use tobacco products, including cigarettes, cigars and chewing or smokeless tobacco. Applicants for employment at these facilities may be screened for nicotine as part of the pre-employment physical examination process, and those who test positive for nicotine will not be considered for employment.

The Diagnostic Medical Sonography Professional Plus program is offered at the State College location.

DIAGNOSTIC MEDICAL SONOGRAPHY PROFESSIONAL PLUS
Diploma Program
106.5 credits/1924 clock hours/23 months

Code	Course	Credits	Clock Hours
First Term			
MD102	Anatomy & Physiology I	5.5	60
MD103	Anatomy & Physiology I Lab	0.5	10
DS251	Applied Physics for DMS	4.5	60
DS255	Applied Physics for DMS Lab	0.5	10
DM208	Introduction to Medical Imaging	2.5	36
MD108	Medical Terminology I	3.0	36
DM209	Patient Care	2.5	36
		19.0	248
Second Term			
MD106	Anatomy & Physiology II	5.5	60
MD107	Anatomy & Physiology II Lab	0.5	10
DM211	Cross Sectional Anatomy for Sonography	1.5	24
DM212	Embryology for the Sonographer	2.5	36
DM213	Law & Ethics in Sonography	2.5	36
MD109	Medical Terminology II	3.0	36
DM214	Principles of Sonography	2.5	36
DM240	Ultrasound Physics & Instrumentation I	2.5	36
		20.5	274
Third Term			
DM236	Abdominal Pathophysiology I	3.0	36
DM237	Abdominal Pathophysiology I Lab	1.0	20
DM215	Ultrasound Physics & Instrumentation II	3.5	48
	Cardiac Elective Grouping OR	11.0	148
	Abdominal & OB/GYN Elective Grouping OR	(11.0)	(148)
	Vascular Elective Grouping	(11.0)	(148)
		18.5	252

	Cardiac Elective Grouping		
DS257	Cardiac Pathophysiology I	3.0	36
DM228	Cardiac Pathophysiology I Lab	1.0	20
DS275	Echocardiography I	3.0	36
DM226	Echocardiography I Lab	1.0	20
DM230	Principles of Cardiovascular Technology	3.0	36

	Abdominal or OB/GYN Elective Grouping		
DM218	Clinical Obstetrics	3.0	36
DS283	Gynecologic Ultrasound	3.0	36
DM216	Gynecologic Ultrasound Lab	1.0	20
DS290	Obstetric Ultrasound	3.0	36
DM217	Obstetric Ultrasound Lab	1.0	20
	Vascular Elective Grouping		
DM230	Principles of Cardiovascular Technology	3.0	36
DS268	Vascular Pathophysiology	3.0	36
DM229	Vascular Pathophysiology Lab	1.0	20
DS282	Vascular Technology I	3.0	36
DM227	Vascular Technology I Lab	1.0	20

NOTE: First Aid & CPR-AHA is required prior to internship.

Fourth Term

	Cardiac Elective Grouping OR	17.5	244
	Abdominal & OB/GYN Elective Grouping OR	(17.5)	(244)
	Vascular Elective Grouping	(17.5)	(244)
		17.5	244

	Cardiac Elective Grouping		
DM241	Advanced Imaging Technologies	1.5	24
DM246	Cardiac Pathophysiology II	3.0	36
DM231	Cardiac Pathophysiology II Lab	1.0	20
DM247	Echocardiography II	3.0	36
DM233	Echocardiography II Lab	1.0	20
DM242	Echocardiography Special Topics	3.0	36
DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36

	Abdominal or OB/GYN Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24
DM248	Obstetric & Gynecologic Ultrasound II	3.0	36
DM221	Obstetric & Gynecologic Ultrasound II Lab	1.0	20
DM249	Principles of Vascular Sonography	3.0	36
DM220	Principles of Vascular Sonography Lab	2.0	36
DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36

	Vascular Elective Grouping		
DM238	Abdominal Pathophysiology II	3.0	36
DM239	Abdominal Pathophysiology II Lab	1.0	20
DM241	Advanced Imaging Technologies	1.5	24

DM243	Ultrasound of the Thyroid, Breast, & Superficial Structures	3.0	36
DM250	Vascular Technology II	3.0	36
DM234	Vascular Technology II Lab	2.0	36
DM251	Vascular Ultrasound Special Topics	3.0	36
DM232	Vascular Ultrasound Special Topics Lab	1.0	20

Fifth Term

DM254	Clinical Internship I	12.0	360
DM224	Professional Development for the Sonographer I	1.0	18
		13.0	378

Sixth Term

DM255	Clinical Internship II	17.0	510
DM225	Professional Development for the Sonographer II	1.0	18
		18.0	528

Students select one of the following elective groups:

- Cardiac
- Abdominal & OB/GYN
- vascular

COURSE DESCRIPTION

DM236 ABDOMINAL PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course is taught concurrently with Abdominal Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM237 ABDOMINAL PATHOPHYSIOLOGY I LAB (1.0 credit/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, and bile ducts will be taught. Details of proper imaging technique of each organ, including transducer selection, patient position, and scan technique will be described and demonstrated. This course is taught concurrently with Abdominal Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

MD102 ANATOMY & PHYSIOLOGY I (5.5 credits/60 clock hours) This course begins with an introduction to the human body which includes the chemical, cellular, and tissue level of organization. Then it progresses to comprehensive anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. Lab projects will be coordinated with specific systems. Prerequisites: None.

MD103 ANATOMY & PHYSIOLOGY I LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology I. Prerequisite: Must be taken concurrently with Anatomy & Physiology I.

MD106 ANATOMY & PHYSIOLOGY II (5.5 credits/60 clock hours) This course is a continuation of comprehensive anatomy and physiology covering the following body systems: sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Laboratory projects will be coordinated with specific systems. Prerequisites: Anatomy & Physiology I and Medical Terminology I.

MD107 ANATOMY & PHYSIOLOGY II LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology II. Prerequisites: Anatomy & Physiology I, Anatomy & Physiology I Lab. Must be taken concurrently with Anatomy & Physiology II.

DS251 APPLIED PHYSICS FOR DMS (4.5 credits/60 clock hours) An algebra-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound, as they are applied to medical sonography. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program.

DS255 APPLIED PHYSICS FOR DMS LAB (.5 credits/10 clock hours) A lab-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program. This course is taken concurrently with Applied Physics for DMS.

DM211 CROSS SECTIONAL ANATOMY FOR SONOGRAPHY (1.5 credits/24 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have and understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM212 EMBRYOLOGY FOR THE SONOGRAPHER (2.5 credits/36 clock hours) Embryology for the Sonographer investigates the development of human organs and body systems. The class will illustrate the normal human developmental process, explore the link between normal and abnormal gross anatomy, and connect the developmental stages. Knowledge and comprehension of the developmental process will assist the sonographer in the recognition of normal anatomy and pathologic processes during exams. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM208 INTRODUCTION TO MEDICAL IMAGING (2.5 credits/36 clock hours) Introduction to various diagnostic imaging modalities in use today and the history of each modality is presented which includes Radiography, Computed Tomography, Magnetic Resonance Imaging, Nuclear Medicine and Ultrasound. Upon completion of the course the student will understand the advantages and disadvantages of each imaging modality when looking for pathology. The student will understand the importance of each modality and its contribution to the diagnostic imaging world. An introduction to PACS, RIS, HIS, EMR systems and their connection to patient records and image archive platforms are presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM213 LAW AND ETHICS IN SONOGRAPHY (2.5 credits/36 clock hours) Various medical/legal/ethical situations will be presented and discussed. Medical malpractice and negligence will be highlighted with multiple court cases and possible scenarios researched and reviewed. Ethical and legal standards of the sonography professional will be presented. Discussion of how to professionally relate to various cultures will be conducted. The legal responsibility of sonographers when dealing with documentation, record keeping, privacy and confidentiality will be

introduced. Other topics to be covered include patient rights, labor law, employment discrimination laws, risk management, and safety regulations and practices. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

MD108 MEDICAL TERMINOLOGY I (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems presented in Anatomy & Physiology I. Prerequisite: Taken concurrently with Anatomy & Physiology I.

MD109 MEDICAL TERMINOLOGY II (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems. Prerequisite: Medical Terminology I.

DM209 PATIENT CARE (2.5 credits/36 clock hours) Presentation of simple to advanced patient care techniques such as moving patients, taking a history, managing patients with IV's, proper aseptic techniques, and infection control procedures. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM214 PRINCIPLES OF SONOGRAPHY (2.5 credits/36 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation. The various ultrasound subspecialties, opportunities within sonography and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM240 ULTRASOUND PHYSICS & INSTRUMENTATION I (2.5 credits/36 clock hours) This course presents the basic physics of diagnostic ultrasound, including properties of pulse-echo ultrasound, display modes, instrumentation, and resolution. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM215 ULTRASOUND PHYSICS & INSTRUMENTATION II (3.5 credits/48 clock hours) This course is a continuation of Ultrasound Physics & Instrumentation I and includes discussion of the Doppler effect, calculation of flow velocities via the Doppler equation, spectral analysis, and color Doppler. Covers properties of Doppler ultrasound instruments such as pulse repetition frequency (PRF), aliasing, and Nyquist limit. Includes discussion of power and intensity measurements of ultrasound instruments. Presents new technology including elastography, fusion imaging, and virtual beam formation. Prerequisite: Ultrasound Physics & Instrumentation I. Must be enrolled in DMS, DPP, or DMP programs

DS257 CARDIAC PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course is taken concurrently with Cardiac Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM228 CARDIAC PATHOPHYSIOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the adult heart will be taught. This course is taken concurrently with Cardiac Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS275 ECHOCARDIOGRAPHY I (3.0 credits/36 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods will be demonstrated. This course is taken concurrently with Echocardiography I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM226 ECHOCARDIOGRAPHY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of cardiac anatomy, physiology, hemodynamics and systolic function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Left hand cardiac scanning will be presented initially. This course is taken concurrently with Echocardiography I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM218 CLINICAL OBSTETRICS (3.0 credits/36 clock hours) This course begins with endocrinology of ovulation, fertilization and implantation, moving on to embryology and progressive development of the fetal and maternal structures throughout the first, second and third trimesters. Physiology and pathophysiology of the placenta are discussed. Emergent conditions such as ectopic pregnancy, placenta abruptio, and impending abortion (miscarriage) are presented. Congenital anomalies, syndromes, intrauterine growth retardation, and other pathologies involving the developing fetus are discussed. Fetal presentation and problems of labor and delivery are covered. Other obstetrical subjects including multigestation, infertility and IVF procedures, development and teratology, hypertension in pregnancy, Rh disease complications and OB testing procedures are covered. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS283 GYNECOLOGIC ULTRASOUND I (3.0 credits/36 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course is taught concurrently with a hands-on scanning lab in Gynecologic Ultrasound I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM216 GYNECOLOGIC ULTRASOUND I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the female pelvic anatomy including the uterus, ovaries and other pelvic structures will be demonstrated and practiced. The course is taught concurrently with Gynecologic Ultrasound I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS290 OBSTETRIC ULTRASOUND (3.0 credits/36 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves onto fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course is taught concurrently with Obstetric Ultrasound Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM217 OBSTETRIC ULTRASOUND LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the uterus, ovaries and female pelvic structures will be taught as well as fetal anatomy, placenta, amniotic fluid, cervix and umbilical cord. This course is taught concurrently with Obstetric Ultrasound. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM230 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.0 credits/36 clock hours) Introduction to cardiovascular anatomy and physiology and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS268 VASCULAR PATHOPHYSIOLOGY (3.0 credits/36 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is taught concurrently with Vascular Pathophysiology Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM229 VASCULAR PATHOPHYSIOLOGY LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Duplex assessment of the anatomy, physiology and pathophysiology of the vascular system will be taught in conjunction with Vascular Pathophysiology. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS282 VASCULAR TECHNOLOGY I (3.0 credit/36 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM227 VASCULAR TECHNOLOGY I LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course teaching full vascular ultrasound protocols such as ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to the most common vascular ultrasound, with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM246 CARDIAC PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course will be taken concurrently with Cardiac Pathophysiology II Lab. Prerequisite: Cardiac Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM231 CARDIAC PATHOPHYSIOLOGY II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Advanced assessment of the anatomy and physiology of the adult heart will be taught. This course will be taken concurrently with Cardiac Pathophysiology II. Prerequisite: Cardiac Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM247 ECHOCARDIOGRAPHY II (3.0 credits/36 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain, will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course is taken concurrently with Echocardiography II Lab. Prerequisite: Echocardiography I. Must be enrolled in DMS, DPP, or DMP programs.

DM233 ECHOCARDIOGRAPHY II LAB (1.0 credits/20 clock hours) This course is a continuation of Echocardiography I Lab and is an integrated, hands-on scanning course with required competency assessments. More advanced assessments of cardiac anatomy, physiology, hemodynamics systolic function and valvular function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Right hand cardiac scanning will be introduced. This course will be taken concurrently with Echocardiography II. Prerequisite: Echocardiography I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM242 ECHOCARDIOGRAPHY SPECIAL TOPICS (3.0 credits/36 clock hours) In depth presentation of 2D, Color and Doppler principles related to all types of valvular stenosis, insufficiency and prosthetic valve evaluation will be discussed. Advanced Doppler analysis related to Valvular disease and changing cardiac pressures and their application /correlation with cardiac angiography will be reviewed. Congenital heart disease in the adult population is introduced with emphasis on 2D and Doppler quantification necessary for evaluation of complex hemodynamics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM248 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (3.0 credits/36 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound I. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II Lab. Prerequisite: Gynecologic Ultrasound and Obstetric Ultrasound. Must be enrolled in DMS, DPP, or DMP programs.

DM221 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Emphasis on the techniques used in scanning the pelvis of all ages. Spectral Doppler and color Doppler applications in obstetrics and gynecology will be demonstrated and practiced. This course is taught concurrently with Obstetric and

Gynecologic Ultrasound II. Prerequisite: Gynecologic Ultrasound Lab and Obstetric Ultrasound Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM249 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM220 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (2.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM238 ABDOMINAL PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Pathophysiology I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Pathophysiology II Lab. Prerequisite: Abdominal Pathophysiology I. Must be enrolled in DMS, DPP, or DMP programs.

DM239 ABDOMINAL PATHOPHYSIOLOGY II LAB (1.0 credit/20 clock hours) This course is a continuation of Abdominal Pathophysiology I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Pathophysiology II. Prerequisite: Abdominal Pathophysiology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM241 ADVANCED IMAGING TECHNOLOGIES (1.5 credits/ 24 clock hours) This class will explore advanced technologies, techniques and procedures used in sonography and other imaging modalities to diagnose patients. Prerequisite: Must be enrolled in DMS, DPP or DMP programs.

DM243 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/36 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM250 VASCULAR TECHNOLOGY II (3.0 credits/36 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology II Lab. Prerequisite: Vascular Technology I. Must be enrolled in DMS, DPP, or DMP programs.

DM234 VASCULAR TECHNOLOGY II LAB (2.0 credits/36 clock hours) This course is an integrated, hands-on scanning course taught as a continuation of Vascular Technology I Lab. It teaches full vascular ultrasound protocols including lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to these protocols with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology II. Prerequisite: Vascular Technology I Lab. Must be enrolled in DMS, DPP, or DMP programs.

DM251 VASCULAR ULTRASOUND SPECIAL TOPICS (3.0 credits/36 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous

case presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course is taught concurrently with Vascular Ultrasound Special Topics Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM232 VASCULAR ULTRASOUND SPECIAL TOPICS LAB (1.0 credits/20 clock hours) This course is an integrated, hands-on scanning course with required competency assessments of the topics demonstrated as part of Vascular Ultrasound Special Topics. This course is taught concurrently with Vascular Ultrasound Special Topics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM254 CLINICAL INTERNSHIP I (12.0 credits/360 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM224 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER I (1.0 credits/18 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM255 CLINICAL INTERNSHIP II (17.0 credits/510clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Clinical Internship I. Must be enrolled in DMS, DPP, or DMP program. A current American Heart Association Basic Life Support for Health Care Providers Certification and First Aid Certification.

DM225 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER II (1.0 credits/18 clock hours) This course is a continuation of Professional Development for the Sonographer I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Professional Development for the Sonographer I. Must be enrolled in DMS, DPP, or DMP programs.

Engineering Technology

The Engineering Technology program was designed at the request of area companies that see a need for employees who have the technical skills required in the mechanical, civil, and architectural environments.
Through a comprehensive educational training program including attention to theory, practice, and application, students in the Engineering Technology program will develop the knowledge, skills, and attributes to assist professional architectural, mechanical, and civil engineers.

The Engineering Technology program prepares students to:

- Design using computer-aided design (CAD) software
- Exhibit competence in applying industry standards and codes
- Accurately measure using a variety of precision measuring instruments in the architectural, civil and mechanical engineering fields
- Create technical documents, estimates, and proposals
- Identify, analyze, and solve broadly-defined engineering technology problems

Upon completion of the Engineering Technology program, the graduate will be awarded an occupational Associate in Specialized Technology Degree. The program is designed to provide students with the skills necessary for entry-level positions such as Computer-Aided Design/Drafting Technician in the Mechanical, Civil, and Architectural fields, CNC Programmer, Materials Technician, Estimator, Field Technician, Surveyor Assistant, or Environmental Technician.

The Engineering Technology program is offered at the State College location.

ENGINEERING TECHNOLOGY
AST Degree Program
130.5 credits/2011 clock hours/25 months

Code	Course	Credits	Clock Hours
First Term			
GE117	Applied Algebra	4.0	60
GE183	Business English I	4.0	60
CP283	Microsoft Office	4.0	60
PD110	Professional Development	2.0	24
IM108	Technical Drawing I	4.5	60
		18.5	264
Second Term			
GE230	Applied Algebra II	4.0	60
GE184	Business English II	4.0	60
IM109	Engineering Excel	3.0	36
IM238	Materials Science	5.0	60
IM245	Technical Drawing II	4.5	60
		20.5	276
Third Term			
IM210	Applied Physics for Engineering Technology	4.5	60
IM211	Applied Physics for Engineering Technology Lab	0.5	10
CE111	Building Codes	3.0	36
IM222	Geometry & Trigonometry for Engineering Technology	4.0	60
IM239	Mechanical CAD	4.5	60
GE259	Technical Writing	2.5	36
		19.0	262
Fourth Term			
IM106	Architectural CAD I	5.0	72
CE201	Civil CAD	5.0	72
IM110	Introduction to Geomatics Geospatial Science	4.0	48
IM233	Machining Processes	3.5	48
IM247	Machining Processes Lab	1.0	24
IM244	Solid Modeling CAD	5.0	72
		23.5	336

Fifth Term

IM214	Architectural CAD II	4.5	60
CE205	Civil Design	4.5	60
IM215	CNC Programming	3.5	48
IM248	CNC Programming Lab	1.0	24
IM249	Intro to Electrical Engineering	5.0	60
CD207	Job Search Skills	2.0	24
		20.5	276

Sixth Term

IM257	Architectural CAD III	4.5	60
IM258	Engineering Technology Project	4.0	80
GE178	Human Relations in the Workplace	2.5	36
IM243	Mechanical Design	4.0	60
		15.0	236

Seventh Term

CD106	Career Preparation	0.5	10
GE261	Engineering Economics	2.0	21
IM259	Engineering Technology Internship	11.0	330
		13.5	361

COURSE DESCRIPTION

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. Prerequisite: None.

GE230 APPLIED ALGEBRA II (4.0 credits/60 clock hours) Applied Algebra II is designed to expand on the concepts developed in Applied Algebra. The topics covered are scientific notation, review of measurements, operations of real numbers, polynomials, factoring, operations of rational expressions, simplifying radicals, solving equations and inequalities, and solving systems of equations. Each concept will involve word problems that are applied in both business and technical careers. This course forms a mathematical foundation for physics and courses in electronics. Prerequisite: Applied Algebra.

IM210 APPLIED PHYSICS FOR ENGINEERING TECHNOLOGY (4.5 credits/60 clock hours) An algebra-based course for the ET program students. Topics covered include technical measurements, elasticity, equilibrium and friction, acceleration, work and power, and simple machines, as they are applied to engineering technology. Prerequisite: Applied Algebra II (prior to or concurrently).

IM211 APPLIED PHYSICS FOR ENGINEERING TECHNOLOGY LAB (.5 credits/10 clock hours) A lab-based course for the ET program students. Topics covered include technical measurements, elasticity, equilibrium and friction, acceleration, work and power, and simple machines. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II. This course is taken concurrently with Applied Physics for ET.

IM106 ARCHITECTURAL CAD I (5.0 credits/72 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD. This will include but not be limited to floor plans, elevations, foundation plans, framing plans, and construction details. Additionally framing methods, wall sections, and general construction specifications are covered. Prerequisites: Technical Drawing II and Building Codes (prior to or concurrently).

IM214 ARCHITECTURAL CAD II (4.5 credits/60 clock hours) An introduction to the concepts, practices, standards and drafting techniques used in residential/light commercial architectural drafting and design utilizing Revit. This will include but not be limited to floor plans, elevations, dimensioning, sections, schedules and related details. Additionally, general construction specifications are covered. Prerequisite: Architectural CAD I.

IM257 ARCHITECTURAL CAD III (4.5 credits/60 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD and Revit. This will include but not be limited to architectural site plans, mechanical plans, plumbing plans, electrical plans, and related details. Additionally, general construction specifications are covered. Prerequisite: Architectural CAD II.

CE111 BUILDING CODES (3.0 credits/36 clock hours) An introduction to international building codes (IRC) that govern residential and light commercial construction. Students explore codes as they relate to the administration, building and planning, safety and fire construction requirements. Prerequisite: None.

GE183 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: None.

GE184 BUSINESS ENGLISH II (4.0 credits/60 clock hours) Business English II further expands upon the skills and applications introduced in Business English I. Students will continue learning and applying the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: Business English I.

CD106 CAREER PREPARATION (.5 credits/10 clock hours) This course is taken concurrently with the internship. The faculty advisor and the student discuss the student's progress at the internship site in a group setting and, for specific problems and successes, individually. Weekly reports are submitted and the experiences of the week are reviewed. In addition, classroom instruction may be given to address areas where the interns, faculty, or site supervisors feel additional work is needed. Field trips to explore different business environments and/or to expand knowledge about the area of study may be taken. Prerequisite: As per internship policy.

CE201 CIVIL CAD (5.0 credits/72 clock hours) Introduction to computer programs frequently used in the practice of civil engineering and surveying. CAD-based applications will be used to construct topographic maps and site plans. Electronic media and digital raster graphic (DRG) images will be introduced. Prerequisites: Technical Drawing II and Geometry and Trigonometry for Engineering Technology

CE205 CIVIL DESIGN (4.5 credits/60 clock hours) This course follows the Civil CAD course and teaches students to execute simple design assignments. In every assignment, the students determine design requirements by researching requirements in borough and township codes and ordinances. Design assignments include site analysis, earthwork and roadways. Prerequisite: Civil CAD.

IM215 CNC PROGRAMMING (3.5 credits/48 clock hours) This course is an introduction to the computer numerical control (CNC) machines and language used in industry. The students learn how to write and edit programs for drilling, milling, and tool change operations. In addition, students use CAM software to write programs from CAD drawing geometry. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes and Machining Processes Lab.

IM248 CNC PROGRAMMING LAB (1.0 credits/24 clock hours) Students apply written programs to produce parts on a CNC machine. Students learn how to produce parts safely, accurately, and in a minimum amount of time. A variety of work-holding methods are learned and applied. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes, and Machining Processes Lab. This course is taken concurrently with CNC Programming.

GE261 ENGINEERING ECONOMICS (2.0 credits/21 clock hours) Introduction to microeconomics. Engineering projects must be designed to be technically correct as well as economically feasible. This course will introduce students to cost concepts and comparing project alternatives. Prerequisite: None

IM109 ENGINEERING EXCEL (3.0 credits/36 clock hours) This course introduces the student to specific functions, formulas, and situations found in the Engineering field, utilizing Microsoft Excel. Instruction is given on intermediate and advanced processes, in Excel. Using appropriate software, the student will learn how to perform common calculations, as well as visually displaying interpreted data. Prerequisites: Microsoft Office, Applied Algebra II (concurrently)

IM259 ENGINEERING TECHNOLOGY INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student participates throughout his/her final term in an on-the-job work-experience program which is directly related to an engineering or manufacturing area of business. Through hands-on experience under the supervision of a site supervisor, the student will have the opportunity

to enhance his/her education and skills and have the opportunity to observe and participate in the interactions of personnel within an organization. Prerequisite: As per internship policy

IM258 ENGINEERING TECHNOLOGY PROJECT (4.0 credits/80 clock hours) This is the capstone course for the Engineering Technology program and gives students an opportunity to test and extend their skills and knowledge. The project is assigned by the instructor. The project may be in the area of mechanical, architectural or civil engineering technology. Students work in teams, submit a final project report, and make a project presentation upon completion. Prerequisites: Machining Processes, Architectural CAD II, and Civil Design.

IM222 GEOMETRY & TRIGONOMETRY FOR ENGINEERING TECHNOLOGY (4.0 credits/60 clock hours) Geometry & Trigonometry for Engineering Technology is designed to prepare engineering students with a basic knowledge in Geometry and Trigonometry concepts used in engineering technology. The topics covered are angular measure, calculations of perimeter, area, volume, and surface area of geometric figures, trigonometric functions with right triangles, and trigonometric functions with oblique triangles. This course forms a mathematical foundation for future courses such as Civil CAD, Machining Processes, and CNC Programming. Prerequisite: Applied Algebra II.

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

IM249 Intro to Electrical Engineering (5.0 credits/60 clock hours) An understanding of Coulombs and Gausses law provides definitions of voltage and current. Ohms Law and Resistivity are defined in simple electrical networks. Series, parallel and series parallel networks lead to Kirchhoff's loop circuit analysis. These networks are demonstrated in the lab and provide an understanding of DC power. The reactive components are defined and their relation to AC power and signals. Prerequisite: Applied Physics for Engineering Technology and Geometry & Trigonometry for Engineering Technology

IM110 INTRODUCTION TO GEOMATICS GEOSPATIAL SCIENCE (SURVEYING) (4.0 credits/48 clock hours) Geomatics is the science of measuring distances, angles and directions of characteristics of the Earth's surface. Maps and drawings for civil engineering projects are created using information obtained from surveys. This course introduces scientific measuring using a variety of surveying equipment, concepts and procedures. Prerequisites: Technical Drawing II and Geometry and Trigonometry for Engineering Technology.

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

IM233 MACHINING PROCESSES (3.5 credits/48 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high speed tool technology. The students learn how to calculate feed rates and spindle speeds for proper machine tool operation. In addition, students select the proper tooling for all types of machining operations. Prerequisite: Geometry & Trigonometry for Engineering Technology.

IM247 MACHING PROCESSES LAB (1.0 credits/24 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high-speed tool technology. The students spend lab time learning how to successfully operate a horizontal band saw, vertical mill, lathe, and drill press to produce simple parts, including internal and external threads. The students learn proper work-holding methods and tool selection. Prerequisites: Geometry & Trigonometry for Engineering Technology. Taken concurrently with Machining Processes.

IM238 MATERIALS SCIENCE (5.0 credits/60 clock hours) Introduces students to materials used in the civil engineering field and in manufacturing. These materials include metals, plastics, concrete, soils, and wood. Specific areas of study include structure, properties, and testing of materials. Prerequisite: Applied Algebra.

IM239 MECHANICAL CAD (4.5 credits/60 clock hours) An intermediate course of 2D drafting using AutoCAD. This course will present advanced commands and techniques to create, annotate, revise and print technical drawings. This course will build on the first CAD class to allow the student to become more proficient with AutoCAD. The course material will be reinforced through hands-on examples and projects. Prerequisite: Technical Drawing II.

IM243 MECHANICAL DESIGN (4.0 credits/60 clock hours) Students learn to identify, describe, select, assemble, and operate machine elements commonly found in mechanical devices. The machine elements covered include: belt and chain drives, gears, shafts, keys, bearings, cams, springs, and linkages. Also included is a design project for the students to incorporate machine elements into a working machine. Prerequisites: Machining Processes and Applied Algebra.

CP283 MICROSOFT OFFICE (4.0 credits/60 clock hours) The current version of Microsoft Office is an integrated suite of applications providing word processing, spreadsheet capabilities, presentation graphics, and database management. This course will acquaint the student with a

broad range of tools and techniques for each application, as well as an understanding of how information is shared between applications. Prerequisite: None.

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

IM244 SOLID MODELING CAD (5.0 credits/72 clock hours) An introductory course of 3D solid parametric modeling using Autodesk Inventor. This course will present methods to create part models and assemblies, and create multi-view drawings based on those models and assemblies. The course materials will be reinforced through hands-on examples and projects. Prerequisite: Mechanical CAD.

IM108 TECHNICAL DRAWING I (4.5 credits/60 clock hours) This course will present the basic commands and techniques required to create, annotate, revise, and print technical drawings using CAD software. The course material will be reinforced through hands-on examples and projects. Prerequisite: None.

IM245 TECHNICAL DRAWING II (4.5 credits/60 clock hours) This course follows the Technical Drawing I course. This course will take the students more in depth with their learning of the CAD software. The course material will be reinforced through a variety of civil, architectural, and mechanical projects. Prerequisite: Technical Drawing I

GE259 TECHNICAL WRITING (2.5 credits/36 clock hours) The students will apply their Business English I experience in learning how to create well written business documents with best design practices. Types of documents include resumes, cover letters, letters, memos, emails, technical descriptions, process explanations, instruction sets, informal/formal reports, and informal/formal proposals. The students perform readability tests and learn how to improve existing document design. Prerequisites: Business English I.

Graphic Arts

The student interested in the Graphic Arts program is one that wants to combine his/her creative and artistic talents with the latest computer technology for a rewarding career. The Graphic Arts program teaches students to become well-informed, resourceful, thoughtful, and talented designers who are able to grow and be challenged with an everchanging visual profession. Developing the creative process, this carefully sequenced curriculum emphasizes fundamental traditions of design through concept development, color, composition, image making, typography, and verbal and written communication. Digital technology is regularly updated with industry standard hardware and software and is a vital component of this program.

Through a comprehensive educational training program including attention to theory, practice, and application, students in the Graphic Arts program will develop the knowledge, skills, and attributes to succeed in the Graphic Arts field.

The Graphic Arts program prepares students to:

- Apply fundamental traditions of design through concept development, color, composition, image making, typography, and verbal and written communication.
- Engage in creative problem solving to produce solutions that are effective in visually communicating information about products, services, companies, or individuals.
- Create graphic design using software including Adobe Creative Suite and website design and productivity software commonly used in the graphic arts industry.
- Create a complete print and digital portfolio that reflects the professional skills acquired through education and continued on-the-job designs.

The Graphic Arts program is offered at the State College location.

GRAPHIC ARTS

AST Degree

119.5 credits/1993 clock hours/23 months

Code	Course	Credits	Clock Hours
First Term			
GE183	Business English I	4.0	60
GA116	Color Theory	2.5	36
GA133	Electronic Design	4.0	60
GA130	Fundamentals of Design	4.0	60
GA120	Fundamentals of Drawing	3.0	60

PD110	Professional Development	2.0	24
		19.5	300
Second Term			
GE234	Geometry for Design	3.0	36
GE184	Business English II	4.0	60
GA128	Collateral Design	3.5	60
GA124	Introduction to Computer Graphics (Photoshop)	4.0	60
GE213	Oral Business Communications	2.0	24
GA126	Typography	3.5	60
		20.0	300
Third Term			
GA230	Advertising Design	3.5	60
GE231	Art History for the Graphic Designer	5.0	60
GE233	Business Writing	3.5	60
GA225	Computer Graphics – Illustrator	4.0	60
GA121	Graphic Design Studio I	3.5	60
CP134	Web Site Design	4.0	60
		23.5	360
Fourth Term			
GA217	Concept Development	2.5	36
GE178	Human Relations in the Workplace	2.5	36
CD207	Job Search Skills	2.0	24
GA220	Packaging Design	3.5	60
GA222	Publication Design	3.5	60
GA235	Social Media and Marketing for Designers	4.0	60
IT218	Web Site Design II	4.0	60
		22.0	336
Fifth Term			
GA236	Advanced Web Site Design (Motion Graphics)	4.0	60
GA228	Digital Pre-Press	3.5	60
	Elective*	3.5	48
GA219	Graphic Design Studio II	3.5	60
GA221	Print Portfolio	3.5	60

GA227	Typography – Expressive & Experimental	3.0	48
		21.0	336
*Electives:			
GA231	Digital Photography or	3.5	48
GA233	Video Production and Editing	3.5	48
Sixth Term			
CD106	Career Preparation	0.5	10
GA232	Freelance Business Development	2.0	21
GA234	Graphic Arts Internship	11.0	330
		13.5	361

Program requirements: Students in the Graphic Arts program are required to sign an attestation to verify that they will purchase or already own a laptop computer with the required specifications prior to the start of school. Specification requirements are furnished to the students when they enroll in the program. Graphic Arts students are also required to sign an attestation to verify that they will purchase a monthly subscription to Adobe Creative cloud from the first term of the program through the last term of the program. The program coordinator will provide information in the first term of the program on how to obtain a student subscription.

COURSE DESCRIPTION

GA236 ADVANCED WEB SITE DESIGN (MOTION GRAPHICS) (4.0 credits/60 clock hours) This course will continue to introduce new and advanced features of web site / social media graphics development using Adobe Animate CC, Adobe Audition CC, and Adobe After Effects CC. Various methods of animation and motion media graphic techniques will be covered. The students will be challenged to develop content rich storyboards, work with audio and video and other elements integrated within their projects to further explore the possibilities of web-based & social media motion graphics. Prerequisite: None.

GA230 ADVERTISING DESIGN (3.5 credits/60 clock hours) This course explores theories, methods and strategies for effectively selling products and services. Students will develop advertising concepts and solutions based on target audiences, demographics, psychographics, and overall company vision. Hands-on projects and presentations will be developed by the student. Prerequisites: Electronic Design, Typography, Computer Graphics – Illustrator (prior to or concurrently).

GE231 ART HISTORY FOR THE GRAPHIC DESIGNER (5.0 credits/60 clock hours) This hands-on course will cover the history of art, focusing on the significant periods in time in which the face of art and design has been altered. It will explore the interrelationship between historical, social, political, religious, and technological developments throughout the history of art. This course will address the modern artist's role in society along with how to integrate key periods of art into the designer's modern work. Prerequisite: None.

GE183 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: None.

GE184 BUSINESS ENGLISH II (4.0 credits/60 clock hours) Business English II further expands upon the skills and applications introduced in Business English I. Students will continue learning and applying the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: Business English I.

GE233 BUSINESS WRITING (3.5 credits/60 clock hours) Students apply the principles of composition and psychology to writing effective business messages by composing memos and letters for typical business situations. Students prepare a resume, letter of application, and thank-you letter. Additionally, students complete research to create business-related documents relevant to their field of study. Prerequisite: Business English II.

CD106 CAREER PREPARATION (.5 credits/10 clock hours) This course is taken concurrently with the internship. The faculty advisor and the student discuss the student's progress at the internship site in a group setting and, for specific problems and successes, individually. Weekly reports are submitted and the experiences of the week are reviewed. In addition, classroom instruction may be given to address areas where the interns, faculty, or site supervisors feel additional work is needed. Field trips to explore different business environments and/or to expand knowledge about the area of study may be taken. Prerequisite: As per internship policy.

GA128 COLLATERAL DESIGN (3.5 credits/60 clock hours) The role of graphic design in creating collateral and cohesive materials and advertising campaigns will be introduced and explored with a focus on brochures, billboards, posters, transit cards, point-of-sale materials, direct mail pieces, sales and promotional materials, etc. The process of developing unified advertising collateral materials in both individual and group settings, involving multiple presentations will be emphasized. Prerequisite: Electronic Design.

GA116 COLOR THEORY (2.5 credits/36 clock hours) This fundamental course provides an introduction to the principles of color and the exploration of color theory. Various degrees of color theory are examined, including the psychological and cultural aspects of how these determine and assist the designer in making appropriate design color decisions. Prerequisite: None.

GA225 COMPUTER GRAPHICS – ILLUSTRATOR (4.0 credits/60 clock hours) This course will explore the essentials of creating vector-based artwork using Adobe Illustrator. Students will explore corporate identity and logo design, creating poster and outdoor advertising, and creating vector artwork from scans and raster artwork. Students are introduced to skillsets including image trace, live paint, creating and modifying shapes using Bezier points, and transformation and modification techniques. Prerequisite: None

GA217 CONCEPT DEVELOPMENT (2.5 credits/36 clock hours) This course focuses on real-world applications of graphic design principles and theory. Problem identification, solving and research methods will be explored. Design solutions will be developed geared to a targeted audience and market will be emphasized. Effective interaction with a creative team will be developed and employed as a resource in the conceptual process, as well as idea-generating exercise. Prerequisites: Electronic Design and Introduction to Computer Graphics (Photoshop).

GA231 DIGITAL PHOTOGRAPHY (3.5 credits/48 clock hours) Introduces students to the history and aesthetics of photography, while encouraging artistic expression and experimentation with picture content and design focused around identifying the basic photographic tools and their intended purpose, including the proper use of camera systems, lighting, and composition. Students will learn how to operate a camera, download, print making to editing, along with presentation. Prerequisite: None.

GA228 DIGITAL PRE-PRESS (3.5 credits/60 clock hours) Students develop skillsets for the creation of properly-prepared digital pre-press documents including scanned and edited images, object-defined graphics and text through the integration of a variety of files. The place of digital page make-up in modern print production is studied, as are specialty finishing, bindery techniques and a variety of methods of providing digital files to commercial printers. Prerequisites: Electronic I, Intro to Computer Graphics (Photoshop) and Computer Graphics - Illustrator.

GA133 ELECTRONIC DESIGN (4.0 credits/60 clock hours) This course expands the various elements, skills, and tools of graphic design to include the computer. Employing Adobe InDesign, the knowledge of traditional typography, hand skills and production will be translated into the electronic environment. Techniques specific to computer generated design will be introduced. Prerequisite: None.

GA232 FREELANCE BUSINESS DEVELOPMENT (2.0 credits/21 clock hours) This course is taken concurrently with the internship. The focus of this course is the practice of design for communication in a business context. This course will cover a number of topics, including: personal marketing, freelance practice, working with artists and vendors, business models for design entrepreneurs, sustainability, and presentation skills. Prerequisite: Taken concurrently with the internship.

GA130 FUNDAMENTALS OF DESIGN (4.0 credits/60 clock hours) This course will introduce the basic principles of design. Using a variety of materials and techniques, the creative process will be introduced and developed. By exploring design elements and relationships, the students will begin to establish a basic aesthetic sensitivity that will further be utilized in various courses throughout the Graphic Arts program. Prerequisite: None.

GA120 FUNDAMENTALS OF DRAWING (3.0 credits/60 clock hours) Visual awareness is expanded through detailed observation of form, composition, mass and structure. These observations are then used to translate and interpret three-dimensional forms into two-dimensional drawings and illustrations. Using a variety of drawing media and working both on location and in the studio, the student will explore drawing and rendering techniques on simple to highly detailed objects, developing the understanding and skills to construct drawings using line, shape, and dimension. Prerequisite: None.

GE234 GEOMETRY FOR DESIGN (3.0 credits/36 clock hours) Geometry for Design is designed to cover basic mathematical, algebraic and geometric concepts that are used by Graphic Design professionals. The topics that will be covered are review of order of operations, basic geometric formulas used by Graphic Design professionals, ratios, proportions, percentages, and measurement conversion. Prerequisite: None.

GA234 GRAPHIC ARTS INTERNSHIP (11.0 credits/330 clock hours) A field internship is required to provide practical experience in a setting which is relevant to the student's course of study. Work performed during the student's internship may be utilized in developing a more cohesive portfolio upon graduation. A comprehensive final paper must be written. Prerequisite: As per internship policy.

GA121 GRAPHIC DESIGN STUDIO I (3.5 credits/60 clock hours) This course introduces students to graphic design as a conceptual and visual discipline. Working in both individual and team environments, varied projects are introduced to the student with an emphasis on solving visual problems from a wide range of topics in a variety of media. Prerequisite: Electronic Design.

GA219 GRAPHIC DESIGN STUDIO II (3.5 credits/60 clock hours) Students in the class will work on a variety of projects for inclusion in their final portfolios. Work will include self-promotional materials, magazine and text-intensive layout design, logo and corporate identity, and creation of multiplepiece design campaigns including print, web and responsive design. Prerequisite: Graphic Design Studio I.

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

GA124 INTRODUCTION TO COMPUTER GRAPHICS (PHOTOSHOP) (4.0 credits/60 clock hours) This course is based on the software Adobe Photoshop. Students will learn how to source images as well as scan photographs and manipulate them using the Photoshop tool box and special effects filters. They will learn the basics in color correcting photos; mask image using channels; creating digital artwork and use it for both web and print applications. Prerequisite: None.

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

GE213 ORAL BUSINESS COMMUNICATIONS (2.0 credit/24 clock hours) This applied communications course teaches the fundamentals of oral business communication with emphasis on improving speaking and listening skills in the workplace. This course will help students create informational speeches and familiarize students with formal speech preparation, business presentation skills, and effective nonverbal communication. Prerequisite: None

GA220 PACKAGING DESIGN (3.5 credits/60 clock hours) This course deals with package design for a variety of products, from mass-market to luxury. Students work with concept, surface design, materials, and the physical construction of three-dimensional forms, as well as exploring how packaging fits in to an overall branding and marketing experience. Prerequisites: Electronic Design, Typography, Computer Graphics – Illustrator, and Geometry for Design (prior to or concurrently).

GA221 PRINT PORTFOLIO (3.5 credits/60 clock hours) The course focuses on the development of the student's print and digital portfolio in preparation for entering the graphic design profession. Several projects will encourage students to develop conceptual skills, to execute comprehensive projects, and to prepare for professional presentations. Students will design an identity portfolio campaign incorporating a resumé, and supporting body of work. At the end of the term, the students will have a physical print portfolio along with creating a personal online digital portfolio-based website. Prerequisites: Electronic Design, Typography, Introduction to Computer Graphics (Photoshop), Computer Graphics – Illustrator, Graphic Design Studio I, Concept Development, Advertising Design, Publication Design, and Web Site Design

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

GA222 PUBLICATION DESIGN (3.5 credits/60 clock hours) Using skills learned from previous classes, students will apply learned principles of publication design to produce a series of related projects. Students will be asked to solve complex design problems when working with lengthy manuscripts, multiple-page documents, large-scale formats, periodicals and/or books. In addition, they will create and integrate functional and typographical solutions that are sophisticated and visually distinctive. Prerequisites: Electronic Design and Typography.

GA235 SOCIAL MEDIA AND MARKETING FOR DESIGNERS (4.0 credits/60 clock hours) With increasing emphasis on social media strategies, there is a need for design professionals to have end-to-end social media expertise. Students will learn the fundamental principles, techniques and technologies of social media visual communication and become familiarized with the tools and processes necessary to execute projects from concept to production. Through case studies, online sessions, and class exercises, students will learn best practices and develop the skills to connect business objectives with social media strategy, platforms and tactics. Prerequisites: None.

GA126 TYPOGRAPHY (3.5 credits/60 clock hours) This fundamental typography course focuses on the expressive and functional aspects of typography in graphic design. Assisting the student in forming a basic understanding of typography based design elements will enable them to advance themselves imaginatively, creatively, and eloquently. Prerequisite: None.

GA227 TYPOGRAPHY – EXPRESSIVE & EXPERIMENTAL (3.0 credits/48 clock hours) Emphasis is placed on the expressive potential of typography. How the form of the written word(s) affects the meaning is studied experimentally. The emphasis is on design elements from the perspective of history, psychology, and artistic interpretation executed with digital tools. Prerequisite: Typography.

GA233 VIDEO PRODUCTION AND EDITING (3.5 credits/48 clock hours) This course introduces the student to video production and non-linear digital video editing. Instruction is given on basic techniques of projection incorporating camera operation, lighting, audio, and storyboarding. Using appropriate software, the student will learn how to operate desktop non-linear editors. Prerequisites: None.

CP134 WEB SITE DESIGN (4.0 credits/60 clock hours) This course introduces Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Website planning, proper color selection, and content creation will be covered. Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming

code. Students will also learn to create and edit web graphics. Primary focus will be on further developing the student's skills using tag development, CSS/ CSS3/, responsive design techniques, and JavaScript when developing a website, enabling students to create more dynamic, interactive, and commercially viable websites. Prerequisite: None.

IT218 WEB SITE DESIGN II (4.0 credits/60 clock hours) This course introduces advanced web site design techniques using Web. Content Management Systems (CMS) based Website development. Using WordPress, students will be introduced to how to setup a WordPress site on a server, how to install and customize a WordPress theme and install plugins, and how to create and work with Posts and Pages. Further exploration of theme development by altering the theme using advanced CSS3 styling will also be covered. Prerequisite: Web Site Design.

Information Technology

The demand for employees with technical expertise continues to increase as both large and small businesses rely more and more on computerized information systems. As an Information Technology (IT) major, you will receive training in such areas as: programming, hardware, computer/network security, telecommunications, database programming, networking, web development, and project management.

Through a comprehensive educational training program including attention to theory, practice and application, students in the Information Technology program will develop the knowledge, skills and competencies needed in the information technology field.

The Information Technology program prepares students to:

- Utilize networking switches and routers to create local area networks.
- Demonstrate troubleshooting techniques that lead to resolving computer-related problems.
- Become familiar with cloud computing and common use cases in information technology.
- Create, retrieve, update, and delete information from modern database systems.
- Setup and maintain Windows and Linux operating systems as well as creating automation scrips for them using common scripting languages.
- Design websites using HTML and content management systems and understand the foundations of modern web-based applications.
- Become familiar with common computer security practices to protect networks.

Upon completion of the Information Technology program, the graduate will be awarded an occupational Associate in Specialized Technology Degree. The program is designed to provide students with the skills necessary for entry-level positions such as Network Technician, Systems Support Specialist, Customer Support Specialist, Help Desk Technician, Computer Repair Technician, Desktop Support Technician, Database Administrator, IT Technician, Server Administrator, Network Administrator, Application Developer, Programmer, Web Administrator, Web Developer, and Webmaster.

Students in the IT curriculum may choose to take internationally recognized certification exams by Microsoft, CompTIA, EC-Council, and CIW. The South Hills Information Technology coursework contains content found on many of these exams. Some certifications that may be obtained include MCTS, MCSE, A+, Network+, CIW-A, and Linux+.

Program Requirements: Students in the Information Technology program must complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. State College students are required to sign an attestation to verify that they will purchase or already own a laptop with the appropriate specifications and have available internet access. Altoona students are required to sign an attestation to verify that they will purchase or already own a laptop or desktop with the appropriate specifications and have available internet access. Specification requirements are furnished to the students when they enroll in the program. This program contains some hybrid classes where part of the class is online and part of the class is residential. The hybrid component of this program utilizes Canvas, a learning management system from Instructure, to deliver content and assessments that are developed in-house.

All students will be at the school throughout the week and will have the same access to our learning resource system, student services, and technology support that our fully residential students receive.

Disclaimer: The order of courses, exact courses, course credits and/or hours are subject to change. Should a change occur, the school will notify the student of the exact course, course credits, and/or hour changes by email, using the student's school-provided email address. If the overall program length or cost changes before the student begins the program, the student will receive a new enrollment agreement for his/her signature. Tuition increases subsequent to starting the program will be communicated, in writing, at least 60 days in advance of the change and will not require the generation of a new enrollment agreement. The written notification will serve as an amendment to the original enrollment agreement.

The Information Technology program is offered at the Altoona and State College locations.

INFORMATION TECHNOLOGY
AST Degree Program
135.0 credits/2141 clock hours/25 months

Code	Course	Credits	Clock Hours
First Term			
GE117	Applied Algebra	4.0	60
GE183	Business English I	4.0	60
GE130	History of IT	2.0	24
CP127	Introduction to Operating Systems	2.5	36
CP132	Introduction to Programming & Logic	4.0	60
IT200	Networking Essentials	4.0	60
PD110	Professional Development	2.0	24
		22.5	324
Second Term			
IT204	TCP/IP	4.0	60
CP134	Web Site Design	4.0	60
CP137	Introduction to Cybersecurity	2.5	36
IT201	UNIX/Linux Essentials	4.0	60
	Technical Elective 1	4.0	60
		18.5	276
	Technical Elective 1:		
IT100	Intermediate Programming **or**	4.0	60
GA124	Introduction to Computer Graphics (Photoshop)	4.0	60
Third Term			
CP135	Business Applications	4.0	60
CP129	Introduction to SQL Databases	4.0	60
IT101	IoT Programming	4.0	60
GE259	Technical Writing	2.5	36
CP130	Technical Presentations	2.0	24
		16.5	240
Fourth Term			
IT202	Database Administration	4.0	60
IT210	Server Administration	4.0	60
IT206	Microsoft Server Operating Systems	4.0	60
IT209	Cisco Networking	4.0	60
IT247	Digital Forensics & Cryptography	4.0	60
		20.0	300
Fifth Term			
IT237	Cloud and DevOps Fundamentals	4.0	60
CD207	Job Search Skills	2.0	24
CP277	Project Management	5.0	60
IT215	Web Server Administration	4.0	60
CP133	Hardware	4.0	60
IT216	SAN Administration and Disaster Recovery	4.0	60
		23.0	324
Sixth Term			
GE178	Human Relations in the Workplace	2.5	36
IT240	Information Technology Capstone Project	6.0	110
MG116	Introduction to Business	4.5	60
IT212	VoIP Telephony	2.5	36
IT248	Cyber Security Risk Management	2.0	24
IT219	Ethical Hacking and Defense	4.0	60
		21.5	326
Seventh Term			
IT227	Information Technology Internship	11.0	330
CD214	IT Career and Certification Preparation	2.0	21
		13.0	351

COURSE DESCRIPTION

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed

numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. Prerequisite: None.

CP135 BUSINESS APPLICATIONS (4.0 credits/60 clock hours) This course introduces students to the concepts and applications of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Microsoft Outlook. Students will receive hands-on lab experience acquainting the student with a broad range of tools and techniques for each application. Prerequisite: None.

GE183 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: None.

CD214 IT CAREER AND CERTIFICATION PREPARATION (2.0 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the IT career and various certification examinations as provided by applicable professional organizations. Prerequisite: As per the internship policy.

IT209 CISCO NETWORKING (4.0 credits/60 clock hours) This course offers an overview of networking with Cisco hardware. Topics include: the OSI model, TCP/IP protocols, Router and IOS basics, Router configuration, network services, access lists, and switch basics and configuration. Prerequisite: Networking Essentials.

IT237 CLOUD and DEVOPS FUNDAMENTALS (4.0 credits/60 clock hours) This course explores a large number of tools commonly used in the DevOps environment to optimize daily systems administration and software development tasks. Prerequisites: UNIX/Linux Essentials, Introduction to Programming & Logic, Networking Essentials.

IT 248 CYBER SECURITY RISK MANAGEMENT (2.0 credits/24 clock hours) This course covers the methodologies and tools for assessing and managing cybersecurity risks. Students learn about risk analysis, mitigation strategies, and how to create a risk management plan. Prerequisites: None

IT202 DATABASE ADMINISTRATION (4.0 credits/60 clock hours) This course will cover advanced database topics. The student will learn how to create and manage databases including security and performance issues. Prerequisite: Intro to SQL Databases.

IT 247 DIGITAL FORENSICS & CRYPTOGRAPHY (4.0 credits/60 clock hours) This course focuses on techniques for investigating cybercrimes and breaches. Topics include data recovery, analysis of digital evidence, and the legal aspects of digital forensics. Prerequisites: None

IT219 ETHICAL HACKING AND DEFENSE (4.0 credits/60 clock hours) This course prepares a student for network defense. Students will learn about network and computer attacks, foot printing, social engineering, port scanning, operating systems and vulnerabilities, and cryptography. The student will learn methods to defend against popular methods of hacking. Prerequisites: Networking Essentials.

CP133 HARDWARE (4.0 credits/60 clock hours) This course will cover microcomputer hardware terminology, upgrade, repair, maintenance, and troubleshooting. Students will learn how to install and configure expansion cards, hard disk drives, printers and other peripheral devices. Prerequisite: None.

GE130 HISTORY OF INFORMATION TECHNOLOGY (2.0 credit/24 clock hours) In this course students will learn the history of computers and information technology. Students will study historical events that led to the creation of the computers of today and how they impact daily business operations. Prerequisite: None.

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

IT240 INFORMATION TECHNOLOGY CAPSTONE PROJECT (6.0 credits/110 clock hours) This course serves as the practicum for the IT program. Students will design system solutions, writing (or choosing) the actual software, making hardware recommendations, designing users' guides, and (where appropriate) training users of the system. Students will document all details of the process by preparing a comprehensive, in-depth project portfolio. Prerequisites: Intro to SQL Databases (concurrently or prior), Project Management, and Introduction to Programming & Logic.

IT227 INFORMATION TECHNOLOGY INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in an on-the-job, work-experience program which is directly related to a computer-oriented area of business. Through hands-on computer experience under the supervision of a computer professional, the student will have the opportunity to enhance his/her education, computer skills and personal skills as well as an opportunity to observe the interaction of personnel within an employment environment. Prerequisite: As per internship policy.

IT100 INTERMEDIATE PROGRAMMING (4.0 credits/60 clock hours) This course continues laying the foundation begun in Introduction to Programming and Logic. It introduces object-oriented programming, using C# as the primary implementation language. Java and C++ will also be used to show the syntactical differences between these core languages. This course adds arrays, file handling, basic data structures, modularization and event-driven GUI programming to the student's toolbox. Students will follow the program development life cycle to create programs that reinforce the topics covered. Prerequisite: Introduction to Programming & Logic.

MG116 INTRODUCTION TO BUSINESS (4.5 credits/60 clock hours) This course is designed to prepare the student to interact with the business world in a knowledgeable manner whether he/she owns the business, works for the business, or just deals with the business as a customer. The course will cover areas including forms of business ownership; the process of management and empowerment; the global dimensions of business; working in teams; promotional strategy; and labor/management relations. Prerequisite: None.

GA124 INTRODUCTION TO COMPUTER GRAPHICS (PHOTOSHOP) (4.0 credits/60 clock hours) This course is based on the software Adobe Photoshop. Students will learn how to source images as well as scan photographs and manipulate them using the Photoshop tool box and special effects filters. They will learn the basics in color correcting photos; mask image using channels; creating digital artwork and use it for both web and print applications. Prerequisite: None.

CP137 INTRODUCTION TO CYBERSECURITY (2.5 credits/36 clock hours) An overview of key concepts, practices, and trends in cybersecurity. Topics may include threats, vulnerabilities, risk management, and the legal and ethical issues surrounding data protection. Prerequisites: None

CP127 INTRODUCTION TO OPERATING SYSTEMS (2.5 credits/36 clock hours) This introductory course is designed to provide students a fundamental understanding of operating systems. The course covers topics such as: client operating systems, server operating systems, Windows operating systems, Linux operating systems, Macintosh operating systems, current and past operating systems, file management, installation, and virtual machines. Prerequisite: None.

CP132 INTRODUCTION TO PROGRAMMING & LOGIC (4.0 credits/60 clock hours) This introductory course is designed to give students an understanding of the basic methods and concepts of problem-solving and applying them to a programming language. The course will focus on logic and critical thinking as it pertains to the problem-solving process. The student will be introduced to standard design tools, such as flowcharts and the UML. Prerequisite: None.

CP129 INTRODUCTION TO SQL DATABASES (4.0 credits/60 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms using both an office application and using the SQL language. Prerequisite: None.

IT101 IoT PROGRAMMING (4.0 credits/60 clock hours) This course in programming IoT devices will introduce students to concepts of programming, setting up IoT devices and Python programming. Prerequisites: None

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

IT206 MICROSOFT SERVER OPERATING SYSTEMS (4.0 credits/60 clock hours) This course in server operating systems will cover topics essential to the installation, configuration, and administration of a current Microsoft Windows server operating system. Prerequisite: Networking Essentials.

IT200 NETWORKING ESSENTIALS (4.0 credits/60 clock hours) This course in Networking Essentials will familiarize students with networking concepts, terminology, theory, design, and implementation. Topics will include network topologies, components, purposes, and administration. Prerequisite: None.

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

CP277 PROJECT MANAGEMENT (5.0 credits/60 clock hours) This course is designed to provide up-to-date information on how good project management and effective use of software can help manage information technology projects. Students will study project management knowledge areas such as: project integration, scope, time, cost, quality, human resources, communications, risk, procurement management and stakeholder management, and process groups such as: initiating, planning, executing, monitoring and controlling, and closing to information technology projects. Prerequisite: This course must be taken in the term prior to the IT Capstone Project class.

IT216 SAN ADMINISTRATION AND DISASTER RECOVERY (4.0 credits/60 clock hours) In this course students will setup a NAS device using various RAID technologies and then move to designing and building a SAN. The students will focus on replication of data, backups and plan disaster recovery. Prerequisite: TCP/IP.

IT210 SERVER ADMINISTRATION (4.0 credits/60 clock hours) This course prepares the student to administer networks using server operating systems. It will focus on updates to the software and in-depth coverage of the administration aspects of server operating systems. This course includes topics such as installing, configuring, managing and troubleshooting. Prerequisite: Networking Essentials and UNIX/Linux Essentials.

IT204 TCP/IP (4.0 credits/60 clock hours) This course in TCP/IP will cover topics essential to the installation, configuration, and administration of the TCP/IP protocol suite. Prerequisite: Networking Essentials.

CP130 TECHNICAL PRESENTATIONS (2.0 credits/24 clock hours) This course covers principles of effective technical presentations and provides a structure for applying them in a professional setting common to the Information Technology profession. Prerequisite: Concurrent with Business Applications.

GE259 TECHNICAL WRITING (2.5 credits/36 clock hours) The students will apply their Business English I experience in learning how to create well written business documents with best design practices. Types of documents include resumes, cover letters, letters, memos, emails, technical descriptions, process explanations, instruction sets, informal/formal reports, and informal/formal proposals. The students perform readability tests and learn how to improve existing document design. Prerequisites: Business English I.

IT201 UNIX/LINUX ESSENTIALS (4.0 credits/60 clock hours) This course explores the Linux operating system and teaches students how to install, configure, and update a Linux operating system. Students will perform tasks such as creating, managing, and deleting user accounts, performing software installation and package management, writing bash scripts, installing and configuring various Linux distributions, automating the scheduling of tasks, managing remote access, and configuring network interfaces and services. Prerequisite: Introduction to Operating Systems.

IT212 VOIP TELEPHONY (2.5 credits/36 clock hours) In this course students will learn to setup VoIP phones on a LAN. Students will examine Cisco's VoIP solutions as well as alterative VOIP systems. Video conferencing solutions will also be examined. Prerequisite: UNIX/Linux Essentials and Networking Essentials.

IT215 WEB SERVER ADMINISTRATION (4.0 credits/60 clock hours) In this course students will learn to setup and administer web servers on both Windows and Linux platforms. Students will manage multiple virtual hosts, install SSL certificates, redirect pages, block access, and apply basic security practices to web servers. Prerequisites: UNIX/Linux Essentials and Networking Essentials.

CP134 WEB SITE DESIGN (4.0 credits/60 clock hours) This course introduces Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Website planning, proper color selection, and content creation will be covered. Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit web graphics. Primary focus will be on further developing the student's skills using tag development, CSS/ CSS3/, responsive design techniques, and JavaScript when developing a website, enabling students to create more dynamic, interactive, and commercially viable websites. Prerequisite: None.

Medical Assistant (Diploma)

The medical assistant is educated to perform some specific administrative and clinical procedures, as well as general guidelines such as universal precautions and effective communication skills that can be adapted to a variety of health care settings.

The responsibilities of the medical assistant will vary depending on where he/she is employed. The versatility of the medical assistant who is prepared to perform administrative and clinical procedures will be an asset in a number of different settings.

Through a comprehensive educational training program, including attention to theory, practice, and application, students in the Medical Assistant program will develop the knowledge, skills, and attributes to use both administrative and clinical skills in a medical setting.

The Medical Assistant program prepares students to:

- Collect and prepare laboratory specimens, and perform basic laboratory tests for application in a healthcare setting.
- Prepare and administer medications as directed by a physician in a healthcare setting.
- Explain treatment procedures and prepare patients for examination.
- Apply proper aseptic techniques for diagnostic and treatment procedures commonly performed in a healthcare setting.
- Utilize the electronic health record to perform medical office functions, such as patient scheduling/check-in, billing, coding, and documenting patient information.
- Apply diagnosis/procedure codes to inpatient records using ICD-10-CM and ICD-10-PCS.
- Apply diagnosis/procedure codes to outpatient records using ICD-10-CM and CPT-4.
- Apply billing and coding procedures to submit claims for reimbursement.
- Apply HIPAA and other regulations regarding confidentiality of patient information to workplace scenarios.

Upon completion of the Medical Assistant program, the graduate will be awarded a diploma. The program is designed to provide students with the skills necessary for entry-level positions such as Medical Assistant, Electrocardiography Technician, Phlebotomist, or Emergency Department Technician.

Documentation of various health records are required for participation in clinical internship. It is the decision of the clinical sites, not South Hills School, if and what immunizations are required for our students. If a student does not comply with the stated facility health immunization requirements, we cannot guarantee clinical internship placement.

Disclaimer: The order of courses, exact courses, course credits and/or hours are subject to change. Should a change occur, the school will notify the student of the exact course, course credits, and/or hour changes by email, using the student's school-provided email address. If the overall program length or cost changes before the student begins the program, the student will receive a new enrollment agreement for his/her signature. Tuition increases subsequent to starting the program will be communicated, in writing, at least 60 days in advance of the change and will not require the generation of a new enrollment agreement. The written notification will serve as an amendment to the original enrollment agreement.

The Medical Assistant program is offered at the Altoona and State College locations.

MEDICAL ASSISTANT
Diploma Program
69.0 credits/1225 clock hours/ 13 months

Code	Course	Credits	Clock Hours
First Term			
MA112	Anatomy & Physiology*	5.0	82
MA113	Introduction to the Health Care Field*	3.5	60
GE179	Mathematics for Health Care Professionals	4.0	60
PD130	Professional Development**	2.0	27
MA114	Medical Terminology*	5.0	82
		19.5	311
Second Term			
MD222	Pharmacology**	3.0	40
GE188	Business Writing Essentials	4.0	60
MA115	Clinical Skills*	5.5	90
MA116	Medical Administrative Skills*	3.5	60
MA117	Medical Legal Aspects*	3.0	36
		19.0	286
Third Term			
MA118	Laboratory Procedures*	5.5	90
GE207	Applied Psychology in Healthcare	3.0	36
MA119	Disease & Diagnostics*	3.5	60
CD220	Job Search Skills**	2.0	28
CP136	Business Applications**	4.0	60
		18.0	274

Fourth Term

MA120	Certification Preparation for the Medical Assistant*	1.5	24
MA203	Medical Assistant Internship	11.0	330
		12.5	354

**Fully Online Course

*Hybrid Course

Various health care facilities in the area will no longer hire applicants who use tobacco products, including cigarettes, cigars and chewing or smokeless tobacco. Applicants will be screened for nicotine as part of the pre-employment process. Nicotine will be part of the urine drug screen. Applicants who test positive for nicotine will not be offered employment.

Based upon individual site assignment, other internship placement requirements may include, but are not limited to: First Aid and CPR certification, drug testing, various disease testing, physical examination, and documentation of immunizations, as well as repeat documentation of criminal history.

COURSE DESCRIPTION

MA112 ANATOMY & PHYSIOLOGY* (5 credits/82 clock hours) This course begins with an introduction to the human body which includes the chemical, cellular, and tissue level of organization. Then it progresses to comprehensive anatomy and physiology of the integumentary, senses, musculoskeletal, cardiovascular, lymphatic, nervous, urinary, reproductive, respiratory, endocrine and digestive systems. Prerequisites: None.

GE207 APPLIED PSYCHOLOGY IN HEALTHCARE (3.0 credits/36 clock hours) The relationship of psychology and states of consciousness to behavior are explored. Topics of study involve an introduction to the areas of health psychology, personality, grieving, function, dysfunction, beliefs, common disorders, and caregiving. Emphasis is placed on the application of these principles in the student's work in the healthcare field. Prerequisites: None.

CP136 BUSINESS APPLICATIONS (4.0 credits/60 clock hours)** This course introduces students to the concepts and applications of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Microsoft Outlook. Students will receive hands-on lab experience acquainting the student with a broad range of tools and techniques for each application. Prerequisites: None

GE188 BUSINESS WRITING ESSENTIALS (4.0 credits/60 clock hours) In order to prepare successful writers of business correspondence, students will, via individual and group practice, learn and apply the skills needed to effectively write various types of business messages. Prerequisites: None.

MA120 CERTIFICATION PREPARATION FOR THE MEDICAL ASSISTANT* (1.5 credits/24 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations.

MA115 CLINICAL SKILLS* (5.5 credits/90 clock hours) This course is the introduction for the student to clinical skills. This introduction provides a strong foundation for students in medical programs. Topics include processing medical information, medical asepsis and infection control, measuring vital signs and performing some CLIA waived testing. Prerequisites: Intro to Healthcare and Anatomy & Physiology.

MA119 DISEASE & DIAGNOSTICS* (3.5 credits/60 clock hours) This course is a study of the concepts and processes related to the anatomy and physiology of the human body, and body function in health and disease. Emphasis is placed on the nature, cause, diagnosis, treatment, and management of these conditions. Prerequisites: Anatomy & Physiology and Medical Terminology.

MA113 INTRODUCTION TO HEALTHCARE* (3.5 credits/60 clock hours) This course introduces the student to the healthcare delivery system and the professionals involved in healthcare. Topics include the history of healthcare; the organizations that set standards or regulations in healthcare; the types of settings in which healthcare is rendered; the organization of hospitals and their medical staffs; the content, uses and format of the patient record; methods of storage, retention and retrieval of patient records; and medical staff committees. Prerequisites: None.

CD220 JOB SEARCH SKILLS(2.0 credits/28 clock hours)** This course prepares students for the job search process. Topics include resume development, cover letters and thank-you letters, job search techniques and interviewing skills. Students will participate in a role-play a mock interview in the classroom to practice interviewing skills. Prerequisites: None

MA118 LABORATORY PROCEDURES* (5.5 credits/90 clock hours) This course teaches the student about collecting specimens and performing a variety of laboratory procedures. The student learns to properly perform procedures such as medication administration and dosage calculations, injections, EKG's, and urinalysis. Prerequisites: Clinical Skills, Intro to Healthcare and Anatomy & Physiology.

GE179 MATHEMATICS FOR HEALTH CARE PROFESSIONALS (4.0 credits/60 clock hours) Mathematics for Health Care Professionals is designed to cover basic mathematical and algebraic concepts used by health care professionals in their career. The topics that will be covered are review of the numerical systems, decimals and fractions, order of operations evaluating algebraic expressions, solving equations and formulas, ratios, proportions and percentages, 24-hour clock, Roman numeral system, measurement conversion and medication dosage calculations. Prerequisite: None.

MA116 MEDICAL ADMINISTRATIVE SKILLS* (3.5 credits/60 clock hours) This course introduces students to common administrative procedures performed in both small and large medical practice via a Practice Management System. Students will learn to input patient information, bill insurance companies and schedule appointments. The student will be able to run common reports associated with the medical practice, including day sheets, patient ledgers, and other financial reports that are important to the day-by-day financial operations of the medical practice and including the introduction to medical insurance and handling of claims (CMS-1500 and UB-04) for various types of third-party carriers including managed care, Medicare, Medicaid (Pennsylvania) and TRICARE. The guidelines for coding diagnoses for outpatient services will be presented and coding of professional services utilizing CPT will be further emphasized. Prerequisites: Intro to Healthcare and Medical Terminology.

MA203 MEDICAL ASSISTANT INTERNSHIP (11.0 credits/330 clock hours) The student will work in a professional atmosphere under the supervision of experienced professionals to fulfill the requirements of the internship. The experience will provide the student with an opportunity to enhance his/her education, personal skills, and observe the interaction of personnel with an office setting.

MA117 MEDICAL LEGAL ASPECTS* (3.0 credits/36 clock hours) This course is the study of basic concepts, terminology, and principles of law and their application to the health care field and health information departments. Legal issues dealing with confidentiality of health information, release of health information, consent forms, liability of health care providers, HIPAA regulations, and other current issues will be presented. Prerequisites: Introduction to Healthcare and Medical Terminology.

MA114 MEDICAL TERMINOLOGY* (5.0 credits/82 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems. Prerequisites: None.

MD222 PHARMACOLOGY(3.0 credits/40 clock hours)** This course is an introduction to basic pharmacological concepts as it applies to the allied health fields. Various drugs will be presented according to their therapeutic applications. Pertinent physiology and related diseases will be reviewed. Emphasis is placed on current drug therapy. Each drug classification will be discussed in regard to its mechanism of action, main therapeutic effects and adverse reactions produced by the drugs. Prerequisites: Medical Terminology and Anatomy & Physiology.

PD130 PROFESSIONAL DEVELOPMENT (2.0 credits/27 clock hours)** Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

Medical Coding & Billing

Medical coders and billers must have a good understanding of anatomy and physiology, the disease process, and clinical procedures in order to apply the correct codes that make up health records, claims, and the business side of medicine. Medical billers specialize in health insurance and reimbursement. Medical billing involves learning the principles related to proper claim form preparation, submission and payment processing, and the follow-up process. Medical coding professionals specialize in ICD-10-CM diagnosis and HCPCS/CPT procedure coding. Medical codes must tell the whole story of the patient's encounter with the physician and must be as specific as possible in regards to capturing reimbursement for rendered services. These codes are used for medical billing, coding, and submitting medical information for reimbursement purposes utilizing the official coding guidelines and conventions.

The Medical Coding & Billing classes will prepare students to:

- Understand the processes involved in health care reimbursement and patient collection practices
- Explain the necessary information needed for CMS-1500 and UB-04 claim form completion
- Identify the different government carriers and commercial insurance carriers
- Code professional medical diagnoses utilizing ICD-10-CM codes
- Code professional medical procedures and services utilizing CPT and HCPCS Level II codes

- Apply official ICD-10-CM diagnosis coding guidelines
- Apply coding conventions when assigning diagnosis and procedure codes
- Abstract information from medical documentation and then assign the appropriate codes
- Code a wide variety of patient services using CPT, ICD-10CM and HCPCS Level II codes

The classes are designed to provide students with the skills necessary for entry-level positions such as medical biller/coder, medical billing/coding specialist, certified medical coder, remote outpatient coding positions in coding and billing services, medical practices, and insurance companies.

Once you have completed the classes you are eligible to take the American Association of Professional Coders (AAPC) Certified Professional Coder (CPC) and Certified Professional Biller (CPB) exams. Upon completion of the Medical Coding & Billing program, the graduate will be awarded a Diploma.

Program Requirements: Students in the Medical Coding & Billing program must complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Applicants are also required to sign an attestation to verify that they have access to a computer capable of running a modern web browser, such as Chrome or Safari and have available internet access.

This program contains hybrid classes where part of the class is online and part of the class is residential. The hybrid component of this program utilizes two learning management systems; Canvas, a learning management system from Instructure, as well as the AAPC (American Academy of Professional Coders) learning management system.

All students will be at the school throughout the week and will have the same access to our learning resource system, student services, and technology support that our fully residential students receive.

MEDICAL CODING & BILLING
Diploma Program
29.5 credits/498 clock hours/10 months

Code	Course	Credits	Clock Hours
First Term			
MC107	Anatomy & Physiology*	5.0	90
MC106	Medical Terminology*	4.5	82
		9.5	172
Second Term			
MC110	Medical Billing*	7.5	132
MC108	Medical Coding I*	4.0	66
		11.5	198
Third Term			
CD217	Job Search	1.5	20
MC109	Medical Coding II*	7.0	108
		8.5	128

*Hybrid course

COURSE DESCRIPTION

MC107 ANATOMY & PHYSIOLOGY* (5 credits/90 clock hours) This class is for students who want to improve their knowledge of anatomy and physiology. The course will guide the student along a journey of understanding on how the human body operates on a daily basis and how anatomy applies to the medical record. This course would be valuable for anyone preparing for a career in any nonclinical medical profession, and strongly recommended for anyone who is preparing for an AAPC certification examination. Prerequisites: None.

CD217 JOB SEARCH (1.5 credits/20 clock hours) This course prepares students for the job search process. Topics include resume development, cover letters and thank-you letters, and interviewing skills. Students will participate in a role-play a mock interview in the classroom to practice interviewing skills. Prerequisites: None.

MC110 MEDICAL BILLING* (7.5 credits/132 clock hours) This course introduces the student to health insurance and reimbursement. In this course the student will become familiar with the health insurance industry, legal and regulatory issues, and differences in reimbursement methodologies. The student will learn principles of medical billing related to proper claim form preparation, submission and payment processing, and the follow up process. This course is recommended for anyone who is preparing for a career in a medical billing department at a physician's office, clinic, or similar positions. This course is strongly recommended for anyone who is preparing for AAPC's CPB™ certification exam. Prerequisites: Anatomy & Physiology and Medical Terminology.

MC108 MEDICAL CODING I* (4.0 credits/66 clock hours) The student will learn principles of medical coding related to coding diagnoses using ICD10-CM. This course is recommended for anyone who is preparing for a career in medical coding for a physician's office and strongly recommended for anyone who is preparing for AAPC's CPC or CPB certification examination. Prerequisites: Medical Terminology and Anatomy & Physiology.

MC109 MEDICAL CODING II* (7.0 credits/108 clock hours) The student will learn principles of medical coding related to coding procedures using CPT® and HCPCS Level II. This course is recommended for anyone who is preparing for a career in medical coding for a physician's office and strongly recommended for anyone who is preparing for AAPC's CPC or CPB certification examination. Prerequisites: Medical Terminology, Anatomy & Physiology, and Medical Coding I.

MC106 MEDICAL TERMINOLOGY* (4.5 credits/82 clock hours) Medical Terminology introduces the student to the medical terminology used in the medical coding and reimbursement profession, and covers medical terminology and anatomy from a coder's perspective. This course would be valuable for anyone preparing for a career in any nonclinical medical profession, and strongly recommended for anyone who is preparing for an AAPC certification examination. Prerequisites: Taken in conjunction with Anatomy & Physiology.

Software Development & Programming

The field of software development and programming continues to evolve as new technologies emerge, increasing the demand for skilled software developers. As a Software Development & Programming (SDP) major, you will receive training and practical hands-on experience developing applications for desktop and mobile operating systems, creating databases, and building web sites using platforms that are in high demand. The curriculum is regularly updated to ensure students are learning programming languages and technologies that employers are using.

Through a comprehensive educational training program including attention to theory, practice and application, students in the Software Development & Programming program will develop the knowledge, skills and competencies needed in the programming and software development fields.

The Software Development & Programming program prepares students to:

- Identify the operating system platform, components, inputs, interface requirements, and dependencies which ensure that a software project will achieve its objectives.
- Manage the process of developing designing, testing, and delivering a software application to meet user needs
- Create, retrieve, update, and delete information from modern database systems. Write programming scripts and applications using modern languages and software tools.
- Revise software for corrections, enhancements, or environment changes
- Perform quality checks to ensure software functions bug-free
- Collaborates effectively with others to achieve a common objective
- Utilize a version control system
- Develop a thorough understanding of data structures and algorithms
- Provide oral and written reports in both technical and non-technical environments
- Apply object oriented programming principles when developing projects
- Design web pages using HTML and content management systems
- Identify ways to solve problems or complete tasks

Upon completion of the Software Development & Programming program, the graduate will be awarded an occupational Associate in Specialized Technology Degree. The program is designed to provide students with the skills necessary for entry-level positions such as Application Developer, Database Administrator, Programmer, Mobile Application Developer, .NET Developer, Software Developer, Web Developer, and Webmaster.

Program Requirements: Students in the Software Development & Programming program must complete and pass a Technical Competency Assessment as well as an Online Learning Readiness Questionnaire with a minimum score of 80%. Specification requirements are furnished to the students when they enroll in the program. State College students are required to sign an attestation to verify that they will purchase or already own a laptop with the appropriate specifications and have available internet access. Altoona students are required to sign an attestation to verify that they will purchase or already own a laptop or desktop with the appropriate specifications and have available internet access.

This program contains some hybrid classes where part of the class is online and part of the class is residential. The hybrid component of this program utilizes Canvas, a learning management system from Instructure, to deliver content and assessments that are developed in-house.

All students will be at the school throughout the week and will have the same access to our learning resource system, student services, and technology support that our fully residential students receive.

Disclaimer: The order of courses, exact courses, course credits and/or hours are subject to change. Should a change occur, the school will notify the student of the exact course, course credits, and/or hour changes by email, using the student's school-provided email address. If the overall program length or cost changes before the student begins the program, the student will receive a new enrollment agreement for his/her

signature. Tuition increases subsequent to starting the program will be communicated, in writing, at least 60 days in advance of the change and will not require the generation of a new enrollment agreement. The written notification will serve as an amendment to the original enrollment agreement.

The Software Development & Programming program is offered at the State College and Altoona locations.

SOFTWARE DEVELOPMENT & PROGRAMMING
AST Degree Program
134 credits/2,129 clock hours/25 months

Code	Course	Credits	Clock Hours
First Term			
GE117	Applied Algebra	4.0	60
GE183	Business English I	4.0	60
GE130	History of IT	2.0	24
CP127	Introduction to Operating Systems	2.5	36
CP132	Introduction to Programming & Logic	4.0	60
IT200	Networking Essentials	4.0	60
PD110	Professional Development	2.0	24
		22.5	324
Second Term			
IT100	Intermediate Programming	4.0	60
IT201	UNIX/Linux Essentials	4.0	60
CP 137	Introduction to Cybersecurity	2.5	36
CP134	Web Site Design	4.0	60
	Technical Elective*	4.0	60
		18.5	276
Technical Elective			
GA124	Introduction to Computer Graphics (Photoshop)	4.0	60
IT204	TCP/IP	4.0	60
Third Term			
CP135	Business Applications	4.0	60
CP141	Introduction to UX/UI	2.5	36
CP129	Introduction to SQL Databases	4.0	60
IT101	IoT Programming	4.0	60
CP130	Technical Presentations	2.0	24
GE259	Technical Writing	2.5	36
		19.0	276
Fourth Term			
IT238	Content Management Systems	2.5	36
IT230	Data Structures and Algorithms	4.0	60
IT211	JavaScript	4.0	60
IT242	Mobile Application Development	4.0	60
IT241	Server-Side Web Development *	4.0	60
		18.5	276
Fifth Term			
IT243	Advanced Javascript	4.0	60
IT237	Cloud and DevOps Fundamentals	4.0	60
CP133	Hardware	4.0	60
CD207	Job Search Skills	2.0	24
CP277	Project Management	5.0	60
IT231	Software Engineering & Application Development	4.0	60
		23.0	32
Sixth Term			
IT219	Ethical Hacking and Defense	4.0	60
GE178	Human Relations in the Workplace	2.5	36
IT240	Information Technology Capstone Project	6.0	110
IT249	Big Data and Analytics	2.5	36
MG116	Introduction to Business	4.5	60
		19.5	302

Seventh Term			
CD214	IT Career and Certification Preparation	2.0	21
IT229	Software Development & Programming Internship	11.0	330
		13.0	351

*Hybrid course

COURSE DESCRIPTION

IT243 ADVANCED JAVASCRIPT (4.0 credits/60 clock hours) This course will build on core concepts introduced in JavaScript and give students the foundation to build larger projects utilizing advanced Java Prerequisite: JavaScript.

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. Prerequisite: None.

IT249 BIG DATA AND ANALYTICS (2.5 credits/36 clock hours) A course on Big Data Analytics provides a comprehensive overview of handling large datasets efficiently. It covers fundamental concepts like data collection, storage, and processing. Students learn various machine learning techniques tailored for Big Data applications and gain proficiency in data visualization and communication. Ethical considerations and security challenges are addressed alongside real-world case studies, ensuring a holistic understanding of the field. Prerequisites: None

CP135 BUSINESS APPLICATIONS (4.0 credits/60 clock hours) This course introduces students to the concepts and applications of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Microsoft Outlook. Students will receive hands-on lab experience acquainting the student with a broad range of tools and techniques for each application. Prerequisite: None.

GE183 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: None.

CD214 IT CAREER AND CERTIFICATION PREPARATION (2.0 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the IT career and various certification examinations as provided by applicable professional organizations. Prerequisite: As per the internship policy.

IT237 CLOUD and DEVOPS FUNDAMENTALS (4.0 credits/60 clock hours) This course explores a large number of tools commonly used in the DevOps environment to optimize daily systems administration and software development tasks. Prerequisites: UNIX/Linux Essentials, Introduction to Programming & Logic, Networking Essentials.

IT238 CONTENT MANAGEMENT SYSTEMS (2.5 credits/36 clock hours) This course focuses on the building of websites using commonly used Content Management Systems (CMS). Throughout the course the student will build a web page using a CMS framework. Students will create posts, create pages, add images, customize themes, import plugins, manage comments, explore e-commerce and social media, and focus on SEO. Prerequisites: Web Site Design.

IT230 DATA STRUCTURE AND ALGORITHMS (4.0 credits/60 clock hours) Using programming languages such as Java and C++, students will construct and analyze various data structures and abstract data types including lists, stacks, queues, and trees. Students will implement various sorting, searching, and hashing algorithms. Prerequisite: Intermediate Programming.

IT219 ETHICAL HACKING AND DEFENSE (4.0 credits/60 clock hours) This course prepares a student for network defense. Students will learn about network and computer attacks, foot printing, social engineering, port scanning, operating systems and vulnerabilities, and cryptography. The student will learn methods to defend against popular methods of hacking. Prerequisites: Networking Essentials.

CP133 HARDWARE (4.0 credits/60 clock hours) Understanding computer hardware provides valuable insights into how software interacts with the underlying system. This knowledge can lead to more efficient programming practices, as student developers work to optimize their code to better utilize hardware resources. Additionally, knowledge of computer hardware is essential for developing software that interfaces directly with hardware components and architecture. Prerequisites: None

GE130 HISTORY OF INFORMATION TECHNOLOGY (2.0 credit/24 clock hours) In this course students will learn the history of computers and information technology. Students will study historical events that led to the creation of the computers of today and how they impact daily business operations. Prerequisite: None.

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such

as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

IT240 INFORMATION TECHNOLOGY CAPSTONE PROJECT (6.0 credits/110 clock hours) This course serves as the practicum for the IT program. Students will design system solutions, writing (or choosing) the actual software, making hardware recommendations, designing users' guides, and (where appropriate) training users of the system. Students will document all details of the process by preparing a comprehensive, in-depth project portfolio. Prerequisites: Intro to SQL Databases (concurrently or prior), Project Management, and Introduction to Programming & Logic.

IT100 INTERMEDIATE PROGRAMMING (4.0 credits/60 clock hours) This course continues laying the foundation begun in Introduction to Programming and Logic. It introduces object-oriented programming, using C# as the primary implementation language. Java and C++ will also be used to show the syntactical differences between these core languages. This course adds arrays, file handling, basic data structures, modularization and event-driven GUI programming to the student's toolbox. Students will follow the program development life cycle to create programs that reinforce the topics covered. Prerequisite: Introduction to Programming & Logic.

MG116 INTRODUCTION TO BUSINESS (4.5 credits/60 clock hours) This course is designed to prepare the student to interact with the business world in a knowledgeable manner whether he/she owns the business, works for the business, or just deals with the business as a customer. The course will cover areas including forms of business ownership; the process of management and empowerment; the global dimensions of business; working in teams; promotional strategy; and labor/management relations. Prerequisite: None.

GA124 INTRODUCTION TO COMPUTER GRAPHICS (PHOTOSHOP) (4.0 credits/60 clock hours) This course is based on the software Adobe Photoshop. Students will learn how to source images as well as scan photographs and manipulate them using the Photoshop tool box and special effects filters. They will learn the basics in color correcting photos; mask image using channels; creating digital artwork and use it for both web and print applications. Prerequisite: None.

CP137 INTRODUCTION TO CYBERSECURITY (2.5 credits/36 clock hours) An overview of key concepts, practices, and trends in cybersecurity. Topics may include threats, vulnerabilities, risk management, and the legal and ethical issues surrounding data protection. Prerequisites: None

CP127 INTRODUCTION TO OPERATING SYSTEMS (2.5 credits/36 clock hours) This introductory course is designed to provide students a fundamental understanding of operating systems. The course covers topics such as: client operating systems, server operating systems, Windows operating systems, Linux operating systems, Macintosh operating systems, current and past operating systems, file management, installation, and virtual machines. Prerequisite: None.

CP132 INTRODUCTION TO PROGRAMMING & LOGIC (4.0 credits/60 clock hours) This introductory course is designed to give students an understanding of the basic methods and concepts of problem-solving and applying them to a programming language. The course will focus on logic and critical thinking as it pertains to the problem-solving process. The student will be introduced to standard design tools, such as flowcharts and the UML. Prerequisite: None.

CP129 INTRODUCTION TO SQL DATABASES (4.0 credits/60 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms using both an office application and using the SQL language. Prerequisite: None.

CP141 INTRODUCTION TO UX/UI (2.5 credits/36 clock hours) Modern software development emphasizes user-centric design, where the user's needs, preferences, and behaviors are considered throughout the development process. Understanding UX/UI principles allows developers to create software that is intuitive, easy to use, and enjoyable for end-users. Collaboration, Problem Solving and Efficiency are additional areas of introduction within this course. Overall, integrating UX/UI knowledge into software development education equips students with the holistic skills needed to create successful software products that meet both user needs and technical requirements. Prerequisites: None

IT101 IoT PROGRAMMING (4.0 credits/60 clock hours) This course in programming IoT devices will introduce students to concepts of programming, setting up IoT devices and Python programming. Prerequisites: None

IT211 JAVASCRIPT (4.0 credits/60 clock hours) This course will introduce students to the concept of client side scripting using languages such as JavaScript. Prerequisites: Web Site Design and Introduction to Programming & Logic.

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

IT242 MOBILE APPLICATION DEVELOPMENT (4.0 credits/60 clock hours) This course introduces students to mobile application development on Android and iOS platforms. They will learn essential skills for creating and deploying applications on both operating systems. Through interactive lectures, students explore Android and iOS development components and create small applications. The Android section covers the operating system and SDK, enabling Android-specific app development. In the Apple section, students learn Swift fundamentals for designing applications

on Apple platforms. This comprehensive course equips students with versatile skills for Android and Apple development. Prerequisite: Intro to Programming & Logic, Intermediate Programming.

IT200 NETWORKING ESSENTIALS (4.0 credits/60 clock hours) This course in Networking Essentials will familiarize students with networking concepts, terminology, theory, design, and implementation. Topics will include network topologies, components, purposes, and administration. Prerequisite: None.

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

CP277 PROJECT MANAGEMENT (5.0 credits/60 clock hours) This course is designed to provide up-to-date information on how good project management and effective use of software can help manage information technology projects. Students will study project management knowledge areas such as: project integration, scope, time, cost, quality, human resources, communications, risk, procurement management and stakeholder management, and process groups such as: initiating, planning, executing, monitoring and controlling, and closing to information technology projects. Prerequisite: This course must be taken in the term prior to the IT Capstone Project class.

IT241 SERVER SIDE WEB DEVELOPMENT *(4.0 credits/60 clock hours) This course in web programming will introduce students to concepts of server-side scripting using PHP, Node JS and other server-side languages. Prerequisites: Web Site Design and Introduction to Programming & Logic.

IT229 SOFTWARE DEVELOPMENT AND PROGRAMMING INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in an on-the-job, work-experience program which is directly related to a computer-oriented area of business. Through hands-on computer experience under the supervision of a computer professional, the student will have the opportunity to enhance his/her education, computer skills and personal skills as well as an opportunity to observe the interaction of personnel within an employment environment. Prerequisite: As per internship policy.

IT231 SOFTWARE ENGINEERING & APPLICATION DEVELOPMENT (4.0 credits/60 clock hours) This course is an introduction to the models and issues concerned with the development of high-quality software. Application of software engineering methodology to the planning, specification, design, development, testing, and delivery of a large software project. Prerequisites: Data Structures and Algorithms.

IT204 TCP/IP (4.0 credits/60 clock hours) This course in TCP/IP will cover topics essential to the installation, configuration, and administration of the TCP/IP protocol suite. Prerequisite: Networking Essentials.

CP130 TECHNICAL PRESENTATIONS (2.0 credits/24 clock hours) This course covers principles of effective technical presentations and provides a structure for applying them in a professional setting common to the Information Technology profession. Prerequisite: Business Applications.

GE259 TECHNICAL WRITING (2.5 credits/36 clock hours) The students will apply their Business English I experience in learning how to create well written business documents with best design practices. Types of documents include resumes, cover letters, letters, memos, emails, technical descriptions, process explanations, instruction sets, informal/formal reports, and informal/formal proposals. The students perform readability tests and learn how to improve existing document design. Prerequisites: Business English I.

IT201 UNIX/LINUX ESSENTIALS (4.0 credits/60 clock hours) This course explores the Linux operating system and teaches students how to install, configure, and update a Linux operating system. Students will perform tasks such as creating, managing, and deleting user accounts, performing software installation and package management, writing bash scripts, installing and configuring various Linux distributions, automating the scheduling of tasks, managing remote access, and configuring network interfaces and services. Prerequisite: Introduction to Operating Systems.

CP134 WEB SITE DESIGN (4.0 credits/60 clock hours) This course introduces Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Website planning, proper color selection, and content creation will be covered. Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit web graphics. Primary focus will be on further developing the student's skills using tag development, CSS/ CSS3/, responsive design techniques, and JavaScript when developing a website, enabling students to create more dynamic, interactive, and commercially viable websites. Prerequisite: None.

*Hybrid

Academic Honor and Excellence . . .

South Hills School of Business & Technology (SHSBT) is fully committed to the highest standards of academic honor and excellence. We expect the same commitment from our students, staff, and faculty. Following is a list of expectations that we must adhere to in order for us to achieve our goals of academic honor and excellence. Although this list is not exhaustive, it does provide guidelines for everyone to follow.

1. Everyone (staff, faculty and students) will arrive on time for work, class, meetings, etc.
2. All students are required to attend all classes. Students are required to contact their instructors **in advance** if an absence is expected to occur. If it is impossible to convey advance notice, the student should notify the school before first period. Emergencies will still be viewed as an absence.
3. Students will demonstrate respect for others while communicating a point of view and while allowing others to do the same, ensuring that the campus is free from intimidation and harassment.
4. Students of all races, colors, genders, ages, religions, national origins, marital status, sexual orientation, ancestry, political beliefs, ethnicities, abilities, socio-economic backgrounds or veteran status are welcome to study and prepare for their career and lifelong learning

Academic Honesty Policy . . .

It is the policy of SHSBT to respond to academic honesty violations during the student's academic study with the following procedure:

1. **First Offense**—an "F" (0%) will be given for the exam or assignment.
2. **Second Offense**—for that class or any subsequent class, the student will be given an "F" in the particular course in which the second offense occurred.

Note: Failure of a course may lengthen the time for program completion or in the DMS, DPP, and DMP programs may result in dismissal from the program.

3. **Third Offense**—for that class or any subsequent class, the student will automatically be expelled from school.

Academic honesty violations include cheating, plagiarism, and other forms of academic dishonesty. First, second, and third offenses apply to the entirety of the student's academic study at SHSBT. When a student violates the honesty policy, he/she will sign a document to acknowledge understanding of the violation and consequences. This document will be kept in the student's academic file.

Attendance . . .

In order to assure the best possible training, prompt and regular attendance is expected. All students must be present for tests and examinations.

A student should notify the school of his/her absence and the cause preferably before the first class in the morning. Students are encouraged to email their late arrivals or absences to attendance@southhills.edu.

Repeated absences or late arrival for class will necessitate the student to meet with the school Director, the Director of Education, or an Academic Affairs Officer to discuss the student's willingness to continue in the program. Excessive absences could result in dismissal.

If a student is absent from school for fourteen (14) consecutive calendar days before the ninth week of the term and has not contacted the school, the student will be withdrawn from school and receive a WD (withdraw, no grade) for all classes he/she was enrolled in that term. If the last date of attendance falls after the ninth week of the term, the student will be withdrawn from school and receive a "WF" (withdraw failing) for all classes he/she was enrolled in that term

Enrollment Cancellation To be considered enrolled in a program, a first-time enrolled student must attend by the seventh calendar day of their first term. A re-enrolled student returning after a previous withdrawal must attend by the seventh calendar day of the first term of their reenrollment. In both circumstances, the student's enrollment will be cancelled after the seventh calendar day of that term if they have not attended up to that point, unless they have received prior approval from the Campus Director or the Director of Education for a delayed start. Students who are articulating from a university to SHSBT are exempt from this policy if an articulation agreement exists between that university and SHSBT.

Credit Structure, Outside Preparation . . .

Credit Structure SHSBT is a quarter credit school. To adequately comprehend content and achieve success in SHSBT courses, time outside of class spent reading, studying, reviewing, practicing, researching, and completing assignments is required. The number of credit hours assigned to a traditionally delivered course is defined by Federal regulation for purposes of financial aid is based on the following definition.

1983—2017 Beginning in April 1983 and ending with the second-year graduating students in 2017, SHSBT was in compliance with criteria outlined by the PA Department of Education. SHSBT defines one semester-credit as either:

- 14 direct faculty instruction periods (lecture) with not less than two hours of out-of-class work per hour of lecture
- Or 28 laboratory hours
- Or 42 internship hours
- Or an appropriate combination of all three per 10-12-week session

The credits for each course are determined by the following calculation: Lecture hours/14 + Lab hours/28 + internship hours/42. The resulting course credit is rounded down to the nearest 0.5 credit.

Fall Term 2016 Beginning on August 29, 2016, SHSBT School has been in compliance with criteria outlined by the PA Department of Education. SHSBT defines one quarter credit as either:

- 10 direct faculty instruction periods (lecture) with not less than two hours of out-of-class work per hour of lecture
- Or 20 laboratory hours
- Or 30 internship hours
- Or an appropriate combination of all three per 10-12-week session

The credits for each course are determined by the following calculation: Lecture hours/10 + Lab hours/20 + internship hours/30. The resulting course credit is rounded down to the nearest 0.5 credit.

All first-time students enrolled beginning in Fall 2016 follow the 10/20/30 quarter credit hour calculation.

Outside Preparation As courses are developed, instructors from the content area meet to determine the number of hours of lecture and the number of hours of lab for that course, based on content. Homework is then developed to meet the number of hours required by Federal regulations. SHSBT uses the following guidelines for time spent on homework.

Textbook reading	@10 pages per hour (skimming, careful reading, review)
End-of-Chapter Questions	@1 hour per 10 questions
Article Reading and Analysis	@6 pages per hour (study guides, workbook assignments, etc.)
Non-Critical Reading	@20 pages per hour
Study for Quizzes	@2 hours
Study for Tests	@4 hours
Group Project	Variable time depending on project
Individual Project	Variable time depending on project
Creating Formal Paper	@2 hours per page
Homework Practice	@1/2 hour per lecture hour (math, accounting, grammar, etc.)

Credit Transfer, PLA Credit, Exemption Credit . . .

Credit Transfer A quarter credit hour is a unit of measure, not necessarily an indicator of transferability of credit. Decisions concerning the acceptance of credits earned in any course taken at SHSBT are made at the discretion of the receiving institution. SHSBT makes no representation whatsoever concerning the transferability of any credit earned at the school to any other institution. Any student considering continuing his/her education at, or transferring to, another institution, must contact the registrar of that receiving institution to determine what credits earned at SHSBT, if any, will be accepted by that institution.

Transfer credit from a career school, college or university accredited by an agency recognized by the United States Department of Education (USDE) or the Council for Higher Education Accreditation (CHEA) to SHSBT is considered on an individual basis. No more than 50 percent of program credits can be transferred into a student's program. Technical (computer) courses or core program courses shall be considered for credit if they have been completed within the last seven years (may be extended if an academic award was received or the student is working in the field). Specific or required math and science courses have a ten-year age limit. General education credits have no age limit.

In order to be considered for transfer credit, the student is asked to supply an official copy of his/her college transcript, along with a copy of the course description(s) before the start of his/her first term. A copy of the syllabus is also beneficial. Transfer credits will not be considered after the fifth day of the term for which a student is schedule for the class. The Director of Education will decide any exceptions to this policy.

Transfer credit may be granted: (1) if the course taken at another postsecondary institution was successfully completed with the minimum required course grade for that student's program at SHSBT (with the exception of the DMS, DMP, DPP programs; see policy below), (2) meets the age of credits requirement, and (3) is comparable to the course given at SHSBT. Students can choose to decline any transfer credits they have been granted should they decide to take the class at SHSBT.

Earned credits and hours are units of measure and are not necessarily an indicator of transferability to another institution. The receiving institution, rather than the providing institution, determines whether to accept earned credits and hours for transfer.

DMS, DMP, DPP Credit Transfer Policy Any student wishing to receive transfer credit from another institution is responsible for providing the previous institution's official transcript along with course descriptions and/or course syllabi. Each course will be reviewed on an individual basis and is not guaranteed to apply to SHSBT course credit. A grade of "C+" or better is required in each general education course, and a "B-" or better in each specialty or technical course being reviewed (including Anatomy & Physiology and Medical Terminology), in order for transfer credit to be considered. Transfer credits will not be considered after the seventh calendar day of the term for a course in which the student is scheduled for the class. The Director of Education will decide any exceptions to this policy.

SHSBT reserves the right to ask the student to take an exemption examination in lieu of accepting transfer credits.

Prior Learning Assessment Prior Learning Assessment credit (PLA) is available to students under certain circumstances (see Prior Learning Assessment section). If PLA credits are granted, the credits will be counted within the 50 percent transfer rule. A maximum of 8 PLA credits will be allowed.

Exemption Credit Exemption tests are available for students to take for a limited number of classes. A $25 fee is required for all exemption tests except Keyboarding. Exemption tests must be taken by the seventh calendar day of the term in which the student is scheduled for the class. The Director of Education will decide any exceptions to this policy. A maximum of 12 exemption credits will be allowed.

No quality points will be awarded for credits received as transfer credits from another accredited school or through Prior Learning Assessment credit. Transfer credits or exemption credits will not be used in calculating the student's GPA, but will count as credits completed to fulfill graduation requirements.

If a student is eligible to exempt a course or receives transfer or PLA credits, that student may take a reduced course load. The student is responsible to check with financial aid to determine what consequences, if any, this reduction in credits will have on his/her financial aid

Prior Learning Assessment . . .

Prior Learning Assessment evaluates an adult student's learning, which has been acquired outside the traditional classroom through documented military training, professional licenses and/or national certifications. PLA determines if this learning is equivalent to the academic curriculum of SHSBT, and is eligible for credit. A student who is interested in having prior learning assessed for possible credit must first contact an Academic Affairs staff member to determine the advisability of seeking credit based on prior learning. If the staff member agrees that the student's prior learning may meet the objectives of a required course, the individual will be asked to submit documentation of the prior learning to the Director of Education or Assistant Director of Education. A maximum of 8 PLA credits will be allowed.

The granting of PLA credit applies only to specialized associate degree programs at SHSBT. PLA credit(s) may or may not be transferable. If a student plans to continue his/her education at another post-secondary school, that school should be contacted to find out what their policy on credit(s) regarding experiential or life learning.

The Prior Learning Assessment will not be considered after the seventh day of the term in which the student is scheduled for the class.

For evaluation details and a PLA application, see Academic Affairs or your Director of Education or Assistant Director of Education.

Clock Hours . . .

A clock hour is equivalent to 50 minutes of classroom instruction. The total clock hours listed for each program are the minimum required by the school for completion of a diploma or specialized degree.

Make-Up Work . . .

Each faculty member will establish and publish his/her specific policies regarding the circumstances in which students are allowed to make up work, quizzes, and exams missed because of absences. If makeup work is allowed, students will not be charged any additional fees to submit this work.

Grading . . .

Students are graded on the basis of overall performance, including class attendance, attitude, work and study habits, periodic examinations, and the attainment of the necessary levels of proficiency in class. An overall 2.0 average is required for graduation.

The grading scale used at SHSBT is below.

Grade	Percentage	Grade Points
A	93-100	4.0
A-	90-92	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	73-76	2.0
C-	70-72	1.7
D+	67-69	1.3
D	63-66	1.0
D-	60-62	0.7
F**	Below 60	0.0

WD	Withdraw, No Grade*
WF	Withdraw Failing**
EC	Exempt Credit
TC	Transfer Credit***
PL	Prior Learning Assessment

* Grade is included in the calculation of Rate of Progress but not in the calculation of Cumulative GPA.
** Grade is included in the calculation of Rate of Progress and in the calculation of Cumulative GPA.
*** Transfer credit is included in the calculation of Rate of progress but not in the calculation of Cumulative GPA.

All "F" and "WF" grades must be repeated. The mark of "I" (incomplete) is entered on the record when a student cannot complete course requirements because of extenuating circumstances within the normal time limit of the course. An incomplete grade must be replaced two weeks after the completion of the course or it automatically becomes the grade that the student earned at that point. The Director of Education will decide on any exceptions to this policy due to extenuating circumstances.

A student must attain the required minimum grade in all courses in his/her curriculum. If this requirement is not attained, the course must be repeated. Minimum grade requirements for major courses vary in some programs, as indicated in the program standards listed below. If a student changes his/her curriculum, it will be necessary for him/her to repeat any course for which he/she did not receive the minimum required grade for the new program.

Diagnostic Medical Sonography Program Standards

Students in the DMS program must earn a "B-" or better in Applied Algebra and a "C+" or better in all other classes. Failure to meet the minimum grade requirement results in the following:

- Terms 1-3 - Students who receive one grade below the minimum grade requirement in any course will be withdrawn from the program but may reapply the following year. Readmission will be granted based on an interview with the DMS team and only if seats are available.

- Terms 1-3 - Students who receive more than one grade below the minimum grade requirement will be withdrawn from the program and may not apply for reinstatement. The student may, however, be eligible to transfer to another program.

- Terms 4-9 (and DMP,DPP)– Students who receive one or more grades below "C+" in any course will be withdrawn from the program and may not apply for reinstatement unless an appeal has been granted. The student maybe eligible to transfer to another program.

Engineering Technology Program Standards

A "B" or better in Applied Algebra is required in the ET program. Students in the ET program must earn a "C-" or better in all other classes.

Medical Coding & Billing Program Standards/ Medical Assistant (Diploma)

Students in the Medical Coding & Billing program and Medical Assistant Diploma program follow the SHSBT grading scale and must earn a "C-" or better in all classes.

GPA Calculation

We use the following formula to determine the cumulative GPA: Total quality points (TQP) minus quality points from a repeated course (QPR); divided by total credits attempted (TCA) minus credits from a withdrawn course (CW), credits earned from a pass/fail course (CPF), and credits from a repeated course (CR). CGPA = TQP - QPR / (TCA – CW – CPF – CR)

Alert/Warning. Students receive the notation(s) when the term and/or the cumulative grade-point average is below a 2.0 and/or when he/she falls below 67% of credits attempted per term or overall in his/her program.

Probation. See "Probation" under the section "Satisfactory Academic Progress."

Prerequisites . . .

A prerequisite is a course you must successfully complete with the minimum grade or better before registering for another course.

Under no circumstances will a student be allowed to take a course if he/she has not earned the minimum grade required in the prerequisite course(s).

Progress Reports (Report Cards) . . .

Students are able to view progress reports (report cards) in the student portal. The grade and grade-point average are indicated on the report. At the mid-term period, meetings will be held with those students whose grade falls below the minimum required grade in any course(s).

Dean's List . . .

In 1979, a Dean's List was established to honor those students in all curricula who receive a grade-point average of 3.5 or better in any term. Students must be taking at least 6.0 credits and in a program of study to be eligible for the Dean's List. At graduation, students will be further honored for maintaining high academic excellence for all terms attended.

Transcript Requests. . .

The transcript is an official record of your academic history at SHSBT. Official transcripts must be sent directly from SHSBT to the institution requesting them; those issued to the student are considered unofficial. Each student may receive unofficial transcripts at no charge. A fee may be accessed to official transcript requests.

Transcripts will not be issued if the student owes a balance to the school. Transcripts can be requested at: www.southhills.edu/transcripts.

Transcripts are kept for 50 years by SHSBT for all students who have graduated, terminated or withdrawn. Transcripts of academic performance for all students from the previous calendar year are consolidated into a digitized file in PDF format and stored separately.

Specialized Degree/Diploma Completion . . .

SHSBT understands that an interruption of a student's education may occur. Students often reapply and finish their education at a later date. Students enrolled in an ASB/AST degree or diploma program at SHSBT must complete that program within 150% of the total program length. Please see the Financial Aid section of this catalog for information about specialized degree completion as it relates to financial aid eligibility.

Educational Delivery Method . . .

SHSBT primarily delivers residential learning. Some programs also include courses that are delivered through a hybrid and/or online modality.

Changing Programs, Adding Courses & Withdrawing Courses . . .

A student may contact an Academic Affairs Officer with a request to change programs at any time. The Academic Affairs Officer will develop a projection of courses and the time which will be necessary to complete the new program. If the program change occurs within the first five days of the term, the student will be changed immediately. If the program change occurs after the first five days of the term, the change will become effective at the start of the following term.

A student may add a course no later than the seventh calendar day of the term. A student dropping a course after that time period and before the 75%-time frame of the duration of the course will receive the notation, "WD" (withdraw, no grade), on the transcript. The 75%-time frame of the duration of a course falls as follows:

COURSE LENGTH	75% DROP POINT
12 weeks	9th week
10 weeks	7th week

Following that period of time, a student withdrawing from an individual course will take the grade earned for the entire course. Exceptions may be made for documented reasons.

Program/Course Revisions . . .

Programs are reviewed annually by the Director of Education and program coordinators, with input from advisory boards and faculty directly involved with the program. The impetus to change often starts with the faculty and/or internship supervisors who are in contact with employers.

All course revisions are made by the instructor with direction from the other faculty and Director of Education as well as the Advisory Board.

Once a consensus is achieved, the change is implemented in the following school year. The revisions are sent to the State Board of Private Licensed Schools and then to our accrediting agencies. Once approval is received, PHEAA and other applicable agencies are notified and an addendum is attached to the catalog.

Learning Resource System . . .

The learning resource system of SHSBT is comprised of two distinctly different resource structures. The two sources play a significant role in implementing, enhancing and supporting the academic programs at SHSBT. Our resource systems also promote life-long learning for students, faculty, and staff by providing the necessary resources to meet their information needs.

Virtual Library:

The school's Virtual Library has been created by SHSBT to provide its faculty and students with easy 24/7 access to various online resources from any internet connection. Our Virtual Library features many specialized research tools which have been organized into three categories and are routinely updated. This extensive online resource listing has been created to assist our students as they undertake research projects for SHSBT programs and/or class-specific assignments.

The Virtual Library is a centralized list of links which provide quick, easy access to many electronic resources such as dictionaries, encyclopedias, software tutorials, newspapers, magazines, scholarly journals, mp3 files, e-books, federal census records, tables, maps and more.

SHSBT Virtual Library is available on the SHSBT website.

LIRN (Library and Information Resources Network):

LIRN is an extensive online learning resource subscription service which provides SHSBT students with millions of peer-reviewed and full-text journals, magazine, newspaper articles, E-books, podcasts, audio, and video resources to support their academic studies.

SHSBT provides students with the link to the LIRN resource system along with the username and password A Learning Resources "How to Manual" is also available online to assist students in navigating through the extensive resources and various database systems available to them through LIRN. Online training for LIRN will be provided.

Additional Libraries:

State College students have access to The Pennsylvania State University's Library (Curtin Road-PSU State College), Schlow Memorial Public Library (211 South Allen Street, State College), and the Centre County Library (200 North Allegheny Street, Bellefonte). Altoona students have access to the Altoona Public Library which is located at 1600 5th Avenue. Thousands of books, eBooks and periodicals are available to choose from. Visit the website for hours at www.altoonalibrary.org.

Internship Policy . . .

Internship policy includes:

- A student enters into an internship only upon successful completion of all course work. Exceptions to this policy are determined by the Director of Education.
- Students in the DMS, DMP, DPP, and MA programs are required to complete an American Heart Association Basic Life Support for Healthcare Providers Certification and a First Aid certification course prior to internship.
- DMS, DMP, DPP Programs—Sonography students should refer to the DMS Handbook for the internship requirements for those programs.
- Students must begin their internship by the tenth school day of the internship term or the student will be withdrawn from the internship. This will result in the internship credits being dropped for that term and may affect financial aid. Students in the DMS, DMP, and DPP programs are exempt from this policy. Other exceptions to this policy will be determined by the Director of Education.
- The internship exists primarily for the benefit of the student intern. Student interns are considered trainees and must not displace any regular employee of the internship site.

- Students must normally complete a 12-week internship. A student scheduled to complete a 12-week internship during the summer term may apply for a 10-week internship, pending approval from the Director of Education.

Any exception made to the above policies will be determined by a joint decision of the student's faculty advisor, Internship Committee, and the Director of Education or Campus Director.

Graduation and Graduation Requirements . . .

Graduation standards include:

1. Students enrolled in diploma and ASB/AST degree programs are required to have a minimum 2.0 cumulative grade-point average in courses required in their program in order to graduate from SHSBT.
2. Students must have completed the program of study for which they are enrolled with the required minimum grade for each course in their program.
3. Students are required to have completed the total credits listed for their programs.
4. The student's balance owed to the school must be paid in full to receive a diploma or transcript.

An Associate in Specialized Business Degree (ASB) will be issued to those students completing ASB programs who have met the standards listed above. An Associate in Specialized Technology Degree (AST) will be issued to those students completing AST programs who have met the standards listed above.

A diploma will be issued to those students completing diploma programs who have met the standards listed above.

A certificate of achievement is issued to students taking one or more of the listed diploma or ASB/AST degree classes.

Honors and Awards . . .

Academic Awards

Students achieving a cumulative grade-point average of 3.75 or above will graduate with highest honors. Those achieving a cumulative grade-point average of 3.5 to 3.74 will graduate with honors.

The Earl P. Strong Memorial Award is given to the Business Administration – Management & Marketing graduate with the highest academic achievement. Dr. Strong was the third director of SHSBT.

The Terry French Memorial Award was established for the graduate with the highest academic achievement in the Information Technology program. Terry was an instructor at SHSBT.

SHSBT Awards are given in all other program areas.

In order to be eligible to receive any of the academic awards, a minimum of a 3.5 cumulative grade-point average must be achieved.

Community Awards

The JoAnn M. Bonfatto Memorial Award was established in 2001 by her husband, Francis Bonfatto of Bellefonte. This memorial award is in memory of a former employee. Faculty/staff members are asked to nominate a graduating student. The list of nominees then goes to a graduation committee where a recipient is chosen that typifies the following attributes: enthusiasm, willingness to help others, friendly and cheerful personality, dependability, and initiative. (State College)

The Ray Houseman Award was established in 2010 in memory of our former instructor, mentor, and friend. The recipient of this award is the graduate who has consistently displayed Ray Houseman's best qualities: his dependability, his friendly and cheerful personality, and most of all, his willingness to help others. Graduating students from each program nominate a graduating student of his/her major. A ballot is then distributed to faculty/staff members to choose the recipient. (Altoona)

The Founder's Award

The Founder's Award was created in memory of S. Paul Mazza, the founder of SHSBT. It is presented to a graduating SHSBT student from each of our two school locations who exemplifies the core values of the school's founder: kindness to others, integrity, school involvement, and a strong academic standing. We offer the Founder's Award to both June & September grads.

Brush-up Privileges . . .

Brush-up privileges for all courses taken at SHSBT are offered without charge to all SHSBT graduates who at some future time may need refresher practice. The offer is only for the same course(s) the graduate has previously taken and passed and is subject to the approval of the Director or Director of Education.

Veterans Regulations . . .

All students receiving assistance from the Veterans Administration are subject to the same policies followed by all students.

Accreditation and Approvals . . .

Accredited by:

Accrediting Commission of Career Schools and Colleges (ACCSC), 2101 Wilson Boulevard, Suite 302, Arlington, Virginia 22201, to award diplomas, associate in specialized business and associate in specialized technology degrees.

Licensed by:

Commonwealth of Pennsylvania, Department of Education, State Board of Private Licensed Schools, 607 South Drive, Floor 3E, Harrisburg, PA 17120, 717-783-8228.

Approved by:

The Secretary of Education, Commonwealth of Pennsylvania, to award the Associate in Specialized Business (ASB) and Associate in Specialized Technology (AST) Degrees

Commonwealth of Pennsylvania, Department of Education, Division of Veterans and Military Education

Commonwealth of Pennsylvania, Office of Vocational Rehabilitation, for the training of rehabilitation students

Pennsylvania Higher Education Assistance Agency (PHEAA) for Pennsylvania state grants and special programs

Department of Health, Education and Welfare for the Pell (Federal) Grant Program

The Diagnostic Medical Sonography AST degree program, the Diagnostic Medical Sonography Professional diploma program, and the Diagnostic Medical Sonography Professional Plus diploma program at the State College campus are accredited by:

Commission on Accreditation of Allied Health Education Programs
25400 US Hwy 19 N. Suite 158
Clearwater, FL 33763
727-210-2350
mail@caahep.org

Students may apply to take the ARDMS Sonography Principles and Instrumentation examination one year prior to graduation, and the ARDMS specialty examinations 60-days prior to graduation.

Affiliations . . .

SHSBT School of Business & Technology or employees are members of:

Altoona/Blair County Development Corporation

American Academy of Professional Coders (AAPC)

American Health Information Management Association (AHIMA)

American Registry of Diagnostic Medical Sonographers Certification Committee

American Society of Echocardiography

Association for Healthcare Documentation Integrity (AHDI)

Bedford County Chamber of Commerce

Blair County Chamber of Commerce

Central Pennsylvania Health Information Management Association (CPHIMA)

Chamber of Business & Industry of Centre County (CBICC)

Central Keystone Valley HR Professionals

Clearfield County Career and Technical Center (CCCTC)

Eastern Business Education Association

Explore Altoona

Greater Clearfield Chamber of Commerce

Happy Valley Adventure Bureau

Human Resource Management Association of Blair County

Huntingdon County Chamber of Commerce

Huntingdon County Career and Technology Center

International Association of Administrative Professionals (IAAP)

Juniata River Valley Chamber of Commerce

Juniata Valley Visitor's Bureau

Mifflin and Juniata County Business & Education Committee

Mifflin County Academy of Science & Technology Advisory Board

Mifflin County School Counseling Advisory Council

Moshannon Valley Economic Development Partnership

National Business Education Association (NBEA)

Pennsylvania Association of Private School Administrators (PAPSA)

Pennsylvania Association of Student Financial Aid Administrators (PASFAA)

Pennsylvania Business Education Association (PBEA)

Phi Beta Lambda (PBL)

Society for Human Resource Management (SHRM)

Society for Clinical Coding

Society of Diagnostic Medical Sonographers

Society For Vascular Ultrasound

State College Area Family YMCA

State College Area High School Career and Technology Center

State College Kiwanis

Tyrone Area Chamber of Commerce

Corporate Officer . . .

SHSBT was incorporated in 1970 under the name of SHSBT Secretarial School, Inc. The school operated under the name of SHSBT Business School from 1973-1997. S. Paul Mazza III is the corporate President.

Student Complaint/Grievance Procedure . . .

SHSBT student complaint procedures are designed to provide fair and prompt consideration to any complaint concerning the actions, decisions, or inactions of faculty or staff members. The student should first attempt to resolve the situation with the person whose action is being questioned. If the student does not feel the matter has been resolved, he or she may proceed through the following steps:

Step 1: The student may file a formal, written complaint to the Director of Education within five (5) working days of the incident by filling out the SHSBT Complaint, Grievance, Concern form. A copy of this form may be obtained from the Director of Education in State College or Campus Director in Altoona.

The location Director of Education will investigate the complaint and may conduct a conference with all involved parties in an attempt to resolve the complaint. The student will receive a written response from the location Director or Director of Education within ten (10) working days of receipt of the complaint.

Step 2: If the student is unsatisfied with the response from the location Director of Education, the student may appeal in writing to S. Paul Mazza III, the President. The President may take whatever steps are deemed necessary to resolve the matter and will render a final decision within ten (10) working days. If any complaint is not resolved to the student's satisfaction, the student may forward the complaint to the school's accrediting body (ACCSC) or The Pennsylvania Department of Education.

Students making complaints may not be subject to unfair actions as a result of filing a complaint.

Accrediting Body Complaint Information

Schools accredited by the Accrediting Commission of Career Schools and Colleges must have a procedure and operational plan for handling student complaints. If a student does not feel that the school has adequately addressed a complaint or concern, the student may consider contacting the Accrediting Commission. All complaints reviewed by the Commission must be in written form and should grant permission for the Commission to forward a copy of the complaint to the school for a response. This can be accomplished by filing the ACCSC Complaint Form. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the Commission. Please direct all inquiries to:

Accrediting Commission of Career Schools & Colleges
2101 Wilson Boulevard, Suite 302
Arlington, VA 22201
(703) 247-4212
www.accsc.org
complaint@accsc.org

A copy of the ACCSC Complaint Form is available at www.accsc.org or https://www.accsc.org/student-center/complaints/

State Complaint Information

Students have the right to file complaints with the Pennsylvania Department of Education against a licensed school. The point of contact for student complaints is:

Pennsylvania Department of Education
State Board of Private Licensed Schools
607 South Drive, Floor 3E
Harrisburg, PA 17120
(717)783-8228

Administration and Staff . . .

State College (Main Campus)

Maralyn J. Mazza, Owner & Director Emeritus
B.A., Bates College

S. Paul Mazza, III, President

Natalie Lombardo-Beaver, Director of Education and Regulatory Affairs
B.S., California University of Pennsylvania

Tricia Turner, Assistant Director of Education RDMS, RVT DMS Program Director
B.S., The Pennsylvania State University
Diploma, South Hills School of Business & Technology
Teaching Area: Diagnostic Medical Sonography

Tammy McCoy, Assistant to the Director/Human Resources
A.S.B., South Hills School of Business & Technology

Glenn Slater, Director of Operations

Vickey A. Warshaw, Admissions Representative

Ellie Sievers, Admissions Representative
A.A.S., Art Institute of Pittsburgh

Dennis C. Lingenfelter, Director of Career Services & Student Recruitment
B.S., The Pennsylvania State University

Barbara E. Chadick, Director of Student Services
A.S.B., South Hills School of Business & Technology
A.S.T., South Hills School of Business & Technology

LeRoy Spicer, Director of Financial Aid
A.S.T., South Hills School of Business & Technology

Darla Gosa, Financial Aid Administrator
Diploma, South Hills School of Business & Technology

Robin Weikel, Bursar
B.S., Susquehanna University
Associate Degree, Williamsport Area Community College

Trudy R. Musser, Assistant to the Bursar
Diploma, South Hills School of Business & Technology

Ingrid Thompson, Academic Affairs Officer
B.S., The Pennsylvania State University

Christine Sulouff, Academic Affairs Officer
A.S.B., South Hills School of Business & Technology

Matthew R. Musser, Information Technology Manager
Certificate, South Hill's School of Business & Technology

Ralph J. Catherman Jr., Network Administrator
A.S.T., South Hills School of Business & Technology

Maximilian Musser, IT Support Specialist
A.S.T., South Hills School of Business & Technology

Cindy Crater, Cafeteria Manager

Jeffry P. Stachowski, Community Outreach Director
B.S., The Pennsylvania State University

Kristen Goodfellow, Career Services and Recruitment Coordinator
A.S.B., South Hills School of Business & Technology

Altoona

Barbara Seeger, Altoona Campus Director/Director of Education
B.S., Lock Haven University Diploma,
Computer Learning Network

Domenic Cecere, III, Admissions Representative
A.S.B., YTI Career Institute

Todd Estright, Director of Operations
A.S.T., South Hills School of Business & Technology

Faculty . . .

State College

Greg Brauser – Adjunct Instructor
M.S., University of Wisconsin
B.S., The Pennsylvania State University
Teaching Area: Criminal Justice

Mark Bregar – Instructor
M.S., The Pennsylvania University
B.S., The Pennsylvania University
Teaching Area: Mathematics and Physics

James Colbert – GA Program Coordinator
A.S.T., Art Institute of Pittsburgh
Teaching Area: Graphic Arts

Wendy Eismont
B.S., The Pennsylvania State University
Teaching Area: Accounting

Michael E. Gates - BAMM Program Coordinator
B.S., The Pennsylvania State University
Teaching Area: Business

Rick Gority
General Computer Curriculum Coordinator
B.A., The Pennsylvania State University
Teaching Area: Computer Technology, Graphic Arts

Patricia A. Helbig
B.S., St. Francis University
Teaching Area: Business and General Education

Robert P. Helbig – Adjunct Instructor
B.S., St. Francis University
Teaching Area: Accounting

John Henry – Adjunct Instructor
B.S., The Pennsylvania State University
Teaching Area: Engineering Technology

Elizabeth Palmer, RDMS, RVT
B.S., The Pennsylvania State University
Diploma, South Hills School of Business & Technology
Teaching Area: Diagnostic Medical Sonography

Beth A. Lampe, RDMS, RDCS
B.S., The Pennsylvania State University
Certificate, Maryland Institute of Ultrasound Technology
Teaching Area: Diagnostic Medical Sonography

Ray Liddick
IT/SDP Program Coordinator
B.F.A., Tyler School of Art, Temple University
B.A., Tyler School of Art, Temple University
Teaching Area: Computer Technology and Graphic Arts

Bradley Lunsford – Adjunct Instructor
J.D., Duquesne University School of Law
B.S., The Pennsylvania State University
Teaching Area: Criminal Justice and Law

Amy E. Nimitz
English Curriculum Coordinator
B.S., Indiana University of Pennsylvania
Teaching Area: English and Speech

Nicholas Page
B.S. Lock Haven University
Teaching Area: Computer Technology

Gary Powers
M.S., Pepperdine University
B.S., U.S. Naval Academy
Teaching Area: Engineering Technology

Todd Rhodes – Adjunct Instructor
A.S.T., South Hills School of Business & Technology
Teaching Area: Engineering Technology

John Berry – Adjunct Instructor
A.S.T., South Hills School of Business & Technology
Teaching Area: Engineering Technology

Barbara A. Seeger
Administrative Professional Program Coordinator
B.S., Lock Haven University
Diploma, Computer Learning Network
Teaching Area: Computer and Office Technology

Greg Tressler, RT (R), RDMS
A.R.D.M.S. Certification, Harrisburg Hospital of Radiologic Technology
R.T. (R) Certification, Magnetic Resonance Imaging at Picker Radiology Technical Training Institute
Teaching Area: Diagnostic Medical Sonography

Tricia Turner, RDMS, RVT
DMS Program Director
B.S., The Pennsylvania State University
Diploma, South Hills School of Business & Technology
Teaching Area: Diagnostic Medical Sonography

Stacy Walgrove, RDMS
B.S., Mt. Aloysius College
Teaching Area: Diagnostic Medical Sonography

Charles Wall IV – Adjunct Instructor
B.A., Juniata College
A.S.T., South Hills School of Business & Technology
Teaching Area: Computer Technology

Rebecca Williamson, RDCS
A.S.T. South Hills School of Business & Technology
Teaching Area: Diagnostic Medical Sonography

Stephanie R. Wilson, RVT, RDMS
Assistant DMS Program Director
B.S., Oregon Institute of Technology
A.S.T., South Hills School of Business & Technology
Teaching Area: Diagnostic Medical Sonography

Jennifer Zojonc, CPC, CPB, CPI– Adjunct Instructor
A.S.B., South Hills School of Business & Technology
Teaching Area: Allied Health

Altoona

Bobbi Jo Brumbaugh, CMA
MA Program Coordinator
A.S.T., YTI Career Institute
Teaching Area: Allied Health

Joshua Dionis – Adjunct Instructor
B.S., The Pennsylvania State University
Teacher Area: Computer Technology

Patricia A. Helbig
B.S., St. Francis University
Teaching Area: Business and General Education

Robert P. Helbig – Adjunct Instructor
B.S., St. Francis University
Teaching Area: Accounting

Vicki Kane – Adjunct Instructor
Doctor of Education, Concordia University
M.E., Concordia University
B.S., Excelsior University
Associate of Science in Nursing, Mount Aloysius
Teaching Area: Allied Health

Amy E. Nimitz
English Curriculum Coordinator
B.S., Indiana University of Pennsylvania
Teaching Area: English and Speech

Guido J. Santella
B.S., University of Delaware
Teaching Area: Computer Technology

Barbara A. Seeger
Administrative Professional Program Coordinator
B.S., Lock Haven University
Diploma, Computer Learning Network
Teaching Area: Computer and Office Technology

Robert Selfridge
B.S., Juniata College
Teaching Area: Computer Technology

Jennifer Zojonc, CPC, CPB, CPI– Adjunct Instructor
A.S.B., South Hills School of Business & Technology
Teaching Area: Allied Health

STUDENT INFORMATION

Announcements and Bulletins . . .

Announcements will be communicated through each student's SHSBT email account, on the desktop, TV monitors, and by notices posted on bulletin boards throughout the building. Announcements over the loud speaker are given on a limited basis. Students are responsible for checking their SHSBT email account for updated school information.

Bus Service . . .

State College CATA buses are available throughout the day at the bus stop on Waupelani Drive. Bus schedules may be found in the main lobby.

Altoona Branch Campus The AMTRAN public bus service stops one block from the school at the corner of 6th Avenue and 58th Street, and at the corner of Boyce Avenue and 58th Street.

Campus Safety & Security Policies/ Annual Crime Report . . .

SHSBT publishes a Campus Safety & Security Policies/Annual Crime Report, which includes the school's policies and procedures regarding: crime/crime statistics; crime prevention/awareness programs; sexual assault, domestic violence, dating violence, and stalking; drug/alcohol abuse prevention programs; hate crimes, sex discrimination and harassment.

This report is required by Federal Law (VAWA). Students and employees are notified each fall via their SHSBT email account as to the availability of the October 1st Annual Crime Report on our website. For additional information go to www.southhills.edu, click "Disclosures" to view the Annual Crime Report.

In addition, the Emergency Response Plan can be accessed at https://www.southhills.edu/disclosures/ or to request a hard copy please email Director of Education & Regulatory Affairs nbeaver@southhills.edu or Campus Director/Director of Education in Altoona- Barb Seeger bseeger@southhills.edu.

Cell Phones and Electronic Devices . . .

Cell phones are not permitted to be used during class time. They must be turned off or placed on "silent mode". You should not transmit or receive any calls or text messages during class.

In addition, no electronic music devices or earphones should be used or visible during class time unless specifically authorized by the instructor.

If you have a personal situation that may require you to be reached by someone, then you should give the caller the SHSBT phone number. Our front desk attendant will deliver emergency messages immediately, and other messages will be delivered as we are able. It is a good idea to share your class schedule with your "regular" callers so that they can avoid calling you during class time.

The school expects full compliance with this policy. Offenders will be addressed by a school administrator.

Class Schedule . . .

4-Days-a-Week Schedule

Schedule: Monday – Thursday	
Period	**Time**
1	8:00 am to 9:00 am
2	9:05 am to 10:05 am
3	10:10 am to 11:10 am
4	11:15 am to 12:15 pm
Common Hour	12:15 pm to 1:15 pm
5	1:15 pm to 2:15 pm
6	2:20 pm to 3:20 pm
7	3:25 pm to 4:25 pm
8	4:30 pm to 5:30 pm

5-Days-a-Week Schedule

Schedule: Monday – Thursday	
Period	**Time**
1	8:00 am to 8:50 am
2	9:00 am to 9:50 am
3	10:00 am to 10:50 am
4	11:00 am to 11:50 am
Common Hour	11:50 am to 1:00 pm
5	1:00 pm to 1:50 pm
6	2:00 pm to 2:50 pm
7	3:00 pm to 3:50 pm
8	4:00 pm to 4:50 pm

Code of Conduct . . .

SHSBT considers each student to be a responsible person and is expected to uphold appropriate standards of behavior. In the event that a violation to the Code of Conduct occurs, SHSBT will strive to utilize the incident as a teachable moment, imposing fair sanctions. However, should an individual commit an egregious violation of the Student Code of Conduct, SHSBT has the responsibility to impose the strictest sanction upon the student. The types of behavior subject to disciplinary sanctions include, but are not limited to:

Academic Dishonesty—Dishonesty or deception in the fulfillment of academic requirements. It includes cheating, plagiarism, unpermitted collaboration, using advantages not approved by the instructor, or knowingly allowing another student to plagiarize or cheat from one's work. Academic honesty violations will follow the Academic Honesty Policy procedures. See the Academic Honesty Policy located in the Academic Information section and included in this Student Information section.

Representation Dishonesty—Provision of false information to the institution by forgery, alteration or misuse of documents or records, falsifying a written or oral statement or submission of false identification to the institution.

Mental or Bodily Harm to Self—Conduct that causes harm or has the potential to cause harm to one's self including the intentional infliction of mental or bodily harm upon one's self.

Mental or Bodily Harm to Others—Conduct that causes harm or has the potential to cause harm to another individual, including:

- Behavior that intentionally inflicts mental or bodily harm on another person
- Behavior that attempts to inflict mental or bodily harm on another person
- Causing another individual to believe that the offender may cause mental or bodily harm to them
- Sexual misconduct
- Any act that demeans or degrades another individual
- Coercion of an individual to inflict mental or bodily harm to another person

Discrimination—Unequal treatment of a person based upon race, color, gender, age, religion, national origin, marital status, sexual orientation, ancestry, political beliefs, ethnicity, ability, socioeconomic background or veteran status.

Disruption/Obstruction—Obstructing or interfering with instruction within a physical or virtual classroom. This includes but is not limited to unprofessional communications, disruptive confrontation, harassing or intimidating behavior towards instructors or classmates, and inappropriate language or comments.

False Report of Emergency—Causing, making or circulating a false report or warning of fire, explosion, crime or other threat to safety.

Destruction of Property—Intentionally or recklessly, but not accidentally, damaging, destroying, defacing or tampering with School property including internship sites or the property of any person associated with the School.

Theft or Possession of Stolen Property or Service—Taking an item or utilizing a service without consent of a school administrator/instructor, or possessing property that can reasonably be determined to have been stolen from SHSBT from an employee or student.

Trespassing—Forcible or unauthorized entry into the School.

Possession of Weapons or Dangerous Materials—Possession of a weapon or dangerous materials, including firearms, compressed air guns, pellet guns, BB guns, knives, explosive devices, incendiary devices, fireworks, ammunition or any other dangerous materials on school property.

Manufacture, Distribution, Sale, Offer for Sale, Possession or Misuse of Drugs or Alcohol—Manufacture, distribution, sale, offer for sale, possession or use of any illegal drug or narcotic, or possession or use of alcohol while on campus or engaged in any school related activities.

Use of Tobacco Products or Electronic Cigarettes in Unapproved Locations—Smoking or use of tobacco products or electronic cigarettes in locations other than those approved for that purpose.

Misuse or Abuse of Computers or Computer Networks—Misuse, alteration, tampering with or abuse of any computer, computer system, service, program, data, or network, including telephone or computer lines and wireless networks. Abuse includes utilization of school computers or Internet access in order to access pornographic web sites or to distribute pornographic material.

Stalking—Engaging in conduct that is directed at a specific person that would cause a reasonable person to experience fear. Stalking may include non-consensual communication, including in-person communication or contact, surveillance, telephone calls, voice messages, text messages, e-mail messages, social networking site postings, instant messages, postings of pictures or information on websites, written letters, gifts or any other undesired communication that elicits fear.

Sex Discrimination and Harassment—Conduct that discriminates, interferes with an individual's academic performance, or creates an intimidating, hostile or offensive environment in which to learn on the basis of an individual's gender.

Disciplinary Sanctions

In the event that a violation to the Code of Conduct occurs, SHSBT will strive to utilize the incident as a teachable moment, imposing fair sanctions. However, should an individual commit an egregious violation of the Student Code of Conduct, SHSBT has the responsibility to impose the strictest sanction upon the student. It is the policy of SHSBT to respond to Code of Conduct violations during the student's academic study with the following procedure:

1. Written Reprimand

A reprimand is an official written notification of unacceptable behavior that is in violation of the Student Code of Conduct. The reprimand will become a permanent document in the student's file. Any further misconduct may result in more serious disciplinary sanctions up to and including termination/expulsion.

2. Expulsion

Expulsion is the termination of enrollment at SHSBT and prohibits the student from being present without permission on school property. The student will be unable to complete his/her program of study with the institution. The student is responsible for payment of tuition and fees and/or repayment of financial aid. The notification of expulsion becomes a permanent part of the student record.

Code of Conduct for the Medical Programs. . .

Students in the DMS, DPP, DMP, and MA programs are required to report any arrest and/or conviction to their program coordinator at SHSBT within seven days of its occurrence. Failure to report the arrest or conviction may result in expulsion from the program. Once reported, the arrest or conviction will be reviewed by the administration. The student will be advised as to the course of action to be taken by the school which may result in disqualification from the program, depending on the nature and severity of the offense.

Course Requirements . . .

Each instructor will hand out a syllabus and course outline in each course. This syllabus will list specific course requirements and grading criteria.

Dismissal . . .

SHSBT reserves the right to require a student to withdraw for cause at any time.

Dress Code . . .

In keeping with the businesslike environment of SHSBT, it is expected that students will be neat, clean and dressed appropriately at all times. Short shorts, halter tops, and muscle shirts are not permitted.

Fire Drills . . .

Unannounced fire drills will be called throughout the year at the State College and Altoona campuses. When an alarm rings at the school, the students should follow the teacher's instructions and leave the building quietly and quickly. Students are to report to a designated assembly point and remain in this area until an accurate head count is taken. Students are not permitted to retrieve personal belongings, enter their vehicles, and/or leave the premises until told to do so. The escape routes are posted in each classroom.

Gifts/Incentives . . .

To avoid all possible appearance of impropriety or appearance of giving preference to one student over another, employees will not accept gifts/incentives from students.

Students may express their appreciation to faculty and staff members with a thank-you letter or verbal thank you.

Housing . . .

State College Many reasonable apartment units are available in complexes surrounding SHSBT School of Business & Technology. If you are interested in finding an apartment or roommates, contact the Admissions department.

SHSBT does not provide housing for out-of-town students, but it does offer assistance in finding apartments and bringing together students who are interested in apartment living.

Immunization Policy…

SHSBT does not require proof of immunization in order to enroll in classes or programs. However, proof of immunization may be required prior to beginning an internship. This will be based on the policies of the internship sites.

IT Regulations . . .

Regulations for using the computers of SHSBT:

1. Use all SHSBT owned computer hardware, software, and network only for authorized educational purposes under the strict guidance of instructors.

2. Do not use a computer account or attempt to obtain a password for a computer account that you are not authorized to use.

3. Do not tamper with another individual's U: Drive.

4. Do not mask the identity of an account, machine, web pages, or electronic communication such as an email address.

5. Do not intentionally develop or experiment with malicious programs on any SHSBT-owned computer, nor install or run on any computer system/network (or give to another user) a program intended to damage or to place excessive load on a computer system/network. This includes but is not limited to programs known as viruses, worms, spyware, keystroke loggers, phishing software, and Trojan horses.

6. Do not attempt to gain access to any SHSBT server or attempt to gain access to information owned by SHSBT or by its authorized users.

7. Do not attempt to circumvent data protection schemes or uncover security loopholes on any network (including the SHSBT network) without written permission from the Network Administrator in charge of the network. (Some computer courses taught at SHSBT may, for academic purposes, instruct students in the practice of ethical hacking in order to teach them how to create countermeasures that will prevent or contain real hacker attacks.)

8. Do not use new skills for illegal or malicious attacks.

9. Do not download or install anything that is not school related. This includes games, pictures, music, videos, etc.

10. Do not visit web sites that are unprofessional and/or unacceptable. The IT Department logs every site that is visited, including the username, date and time.

11. Do not play games, check your email or surf the internet while an instructor is lecturing. Please be courteous to your instructors and classmates.

12. No food or drink is permitted in any computer room.

Lunch and Cafeteria Services . . .

State College A variety of breakfast and lunch items are served each day in the school cafeteria. A weekly menu is posted. Breakfast foods and drinks are served at 8 a.m.; lunch is served from 10 a.m. to 1:00 p.m. Students may also make use of the refrigerator and microwaves located in the dining area. Soda and snack machines are also available.

Altoona A lunchroom/Kitchenette is located in the upper level of the campus. This area is equipped with two refrigerators, two microwaves, and a Keurig coffee machine

Name Change . . .

SHSBT is required to use the student's legal name on all school records. Students who wish to change their legal name must submit documentation of the change to the Academic Affairs and Financial Aid departments. A social security card is required as legal documentation of this change. Without this documentation, we cannot process the name change.

Parking . . .

State College Parking is available in the student parking lot, in the parking area adjoining the YMCA, and on surrounding streets. Larger vehicles please use the back rows. Students are not permitted to use the faculty/staff/visitor parking lot in the front of the school. Note: Cars parked overnight will be towed.

Altoona Parking is available in the lot located next to the building. Please keep the visitor, permit, and handicap spots open for guests.

Pets . . .

Pets are not permitted in any SHSBT buildings. The use of service animals is the only exception to this policy. The service animal policy must be followed if a service animal is medically necessary. Employees and students are not permitted to bring therapy animals to work/school.

Recycling . . .

SHSBT participates in recycling. All empty soda cans are to be deposited in the appropriate containers located by the vending machines. Many classrooms have recycling containers to be used for white computer paper, typing paper, and note paper.

Schedules . . .

Students can view individual term schedules on the student portal. If at any time a scheduling conflict occurs, please contact the Academic Affairs Office regarding alternatives.

Service Animals . . .

The American with Disabilities Act (ADA) defines a service dog as any animal individually trained to do work or perform tasks for the benefit of an individual with a disability, including, but not limited to, guiding an individual with impaired vision, alerting individuals who are hearing impaired to intruders or sounds, providing minimal protection or rescue work, pulling a wheelchair or fetching dropped items.

SHSBT must comply with the ADA in allowing use of service animals for students and employees. Pets are now allowed on campus under this policy. (See policy on pets.) Employees and students are not permitted to bring therapy animals to work/school.

Responsibilities of the Student/Employee with the Service Animal

1. Complete and submit a Service Animal registration form.
2. Provide sufficient evidence verifying that the animal meets the definition of a service animal. The animal should have some documentation of ownership and updated rabies vaccination.
3. Provide evidence of animal training.
4. Maintain minimal equipment such as a leash, by which the animal can be controlled.
5. State specific plans for maintenance of the animal. The student/employee should always carry bags to clean up feces and properly dispose of the feces. Students/employees who are not physically able to pick up and dispose of animal feces are responsible for making all necessary arrangements for assistance. The school is not responsible for this service.

Smoking . . .

We have established our State College and Altoona facilities as a smoke-free workplace. Smoking and tobacco products as well as e-cigarettes are not permitted in the building.

State College & Altoona Smoking is permitted in the smoking gazebo only.

Snow Days . . .

In the event that we are unable to hold classes in-person due to inclement weather, we will consider the following options:

1. If there is advanced notice of an impending weather event- We will schedule a remote learning day and all students should report to their scheduled classes on zoom. Your instructors will provide you with the zoom links to your classes. Please be sure to test your computer, internet, audio, and camera as soon as possible. Please reach out to your campus Director if you have any concerns with your ability to take part in a zoom class due to these circumstances.

2. If there is an unexpected weather event in which zoom preparation is not possible, we will consider the following options:
    a. Cancel classes for that day. Snow days are built into the schedule at the end of the winter term.
    b. Delay class by 2 hours in which 1st and 2nd period will be cancelled. We will NOT be utilizing delayed start schedules due to instructor staffing.

If a student considers the roads dangerous in his/her area, he/she is to use his/her best judgment regarding attending school that day.

State College & Altoona Students should sign up for SHSBT text alerts (see Text Alert section), or check the SHSBT website. **State College** can also listen to the school phone message,

Student Activities and Organizations . . .

IT Club IT Club offers students the opportunity to build their computer skills through interaction with the community around them. Club IT also provides students with the opportunity to gain additional knowledge as well as networking opportunities within the local business community. The club shows students ways in which the skills they are learning apply to the real world and gets them accustomed to working with end-users. Membership is open to students in all majors. (Both locations)

Health Careers Club Health Careers Club provides a unique program of leadership development, motivation, and recognition exclusively for students pursuing health care careers. The Health Careers Club will help plan and organize sponsored events, provide educational opportunities for students enrolled in allied health programs and work with faculty advisors on activities and meetings. Membership is open to students who are enrolled in allied health programs. (Both locations)

Future Business Leaders of America FBLA Collegiate is an association of students preparing for careers in business-related fields. PBL promotes a sense of civic and personal responsibility and develops leadership skills. The members compete in state and national competitions and perform civic duties such as organizing blood drives and promoting school spirit. PBL strives to help students focus on business connections and community connections throughout the school year. Membership is open to students in all majors. (State College)

Student Forum Student Forum plays an important role in our students' lives. The group acts as a sounding board for the student body. It was formed in March 1975 as the Student Council. In 1985 the name was changed to Student Forum. The Forum sponsors cultural, educational, and recreational events throughout the year. Student Forum provides a channel of communication between students and the administration. Membership is open to students in all majors. (State College)

Robotics Club The Robotics club will provide a fun and creative learning environment for students from all majors with an interest in technology. We will offer a range of robotics activities and challenges designed to stimulate the minds of all members, while teaching valuable skills in Problem-solving, collaboration and resourcefulness. Our club will provide a safe and supportive space to explore the exciting and ever evolving world of robotics. (State College)

Student Services . . .

SHSBT offers the following programs, services, and resources to assist and support students.

Academic Affairs Our Academic Affairs staff assists students in the areas of scheduling, program advising, academic concerns, and academic records. They are also available to discuss personal concerns and to provide referral information.

Career Services SHSBT has a Career Services staff who will assist you in finding your first job as well as with any changes you may wish to make later in your employment career. See Career Services section.

Clubs and Activities SHSBT has a variety of clubs and activities that students can participate in. See Student Activities and Organizations section.

Faculty Advisors Each student will be assigned a faculty advisor who will be available to meet with the student throughout the school year to discuss academic concerns and provide program advising and information. In addition, the student will be assigned an internship supervisor who will be responsible for assisting the student in finding an internship, keeping abreast of the student's progress, and supervising the student while on internship. Often the faculty advisor will also be the internship advisor.

Financial Aid Financing your education is another crucial area that makes your education possible. Our Financial Aid staff is available to assist you with your application for grants and loans, and the Bursar can answer any questions you have about your finances at SHSBT. See Financial Aid section.

Library SHSBT maintains an on-line electronic library for student use. See Library section.

Students with Disabilities SHSBT will make reasonable accommodations for students with disabilities. Students requesting accommodations must meet with the campus 504 Coordinator. See Services Available to Students with Disabilities section.

Tutoring Student tutors are available to help fellow SHSBT students with their academic progress throughout the school year. See the Student Services Director in State College and the Campus Director at the Altoona campus to request a tutor.

Student Store . . .

The SHSBT Student Store offers SHSBT apparel, as well as snack foods and drinks in the Student Services Director's office.

Text Alerts . . .

Students are strongly encouraged to sign up to receive text alerts for Snow Days or Emergencies. To sign up for State College, text SC to 814-699-8533; for Altoona, text AL to 814-699-8533. You will receive a confirmation text stating that you have opted in to receive texts from SHSBTPA. SMS message and data rates may apply.

Weapons . . .

SHSBT believes it is important to establish a clear policy that addresses weapons in the workplace. Specifically, SHSBT prohibits all persons who enter company property from carrying a handgun, firearm, or other prohibited weapon of any kind regardless of whether the person is licensed to carry the weapon or not.

The only exception to this policy will be police officers or other persons who have been given written consent by SHSBT to carry a weapon on the property. Any student disregarding this policy will be subject to immediate termination.

FALL TERM 2024

August 14	Orientation for New Students Altoona
August 15	Orientation for New Students State College
August 26	Faculty/Staff Kick-off
August 27	Fall Term Begins
September 2	Labor Day (No School)
October 9	Midterm
October 18	In-Service
October 31	Last Day to Withdraw from a Course
November 21	Fall Term Ends

WINTER TERM 2024-2025

December 2	Winter Term Begins
December 24	Holiday Break Begins
January 2	Resume Classes
January 22	Midterm
January 24	In-Service
February 13	Last Day to WD from a Course
March 6	Winter Term Ends

SPRING TERM 2025

March 17	Spring Term Begins
April 28	Midterm
May 9	In-Service
May 26	Memorial Day (No School)
June 11	Spring Term Ends

SUMMER TERM 2025

June 16	Summer Term Begins
July 4	Independence Day (No School)
July 21	Midterm (10-weeks)
July 28	Midterm (12-weeks)
August 25	Summer Term Ends (10-weeks)
Sept 2	Labor Day (No School)
Sept 9	Summer Term Ends (12-weeks)

Note: Commencement is held annually. Dates are announced at the beginning of each school year via the online academic calendar.

Calendar dates are subject to change

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