

ADDENDUM TO 2008-2009 CATALOG

(Last Updated February 3rd, 2009)

This addendum reflects changes to the 2008-2009 Catalog that went into effect after the catalog went to print.

ACADEMIC CALENDAR AND DIRECTORY Health Science Orientation **Date Change** (refer to page 2 of the 2008-2009 Catalog)

ADMISSIONS – Residency Requirements In-State Completely Online Rate **Specification** (refer to page 6 of the 2008-2009 Catalog)

BIOLOGY Course Description and Prerequisite Changes (refer to Page 96 of the 2008-2009 Catalog)

BUSINESS MANAGEMENT Course Description Changes (refer to Page 97 of the 2008-2009 Catalog)

CARPENTRY Associate of Applied Science (**NEW Program** & **Curriculum Changes**)

CARPENTRY Certificate of Applied Science (**NEW Program** & **Curriculum Changes**)

CARPENTRY COURSE DESCRIPTIONS (Carpentry, Construction & Welding) **NEW**

COMPUTER INFORMATION TECHNOLOGY Course Descriptions and Prerequisite Changes (refer to Pages 100-102 of the 2008-2009 Catalog)

COLLEGE STUDIES Course Description Changes (refer to Page 102 of the 2008-2009 Catalog)

ELEMENTARY EDUCATION – AAS/TRANSFER Curricula Changes (refer to Page 84 of the 2008-2009 Catalog)

FINANCIAL AID Fee Waiver Clarification (refer to Page 17 of the 2008-2009 Catalog)

GRAPHIC DESIGN Associate of Applied Science (**NEW Program**)

GRAPHIC DESIGN COURSE DESCRIPTIONS **NEW**

HEALTH INFORMATION CODING SPECIALIST (HICS) Certificate of Applied Science **Curriculum Changes** (refer to page 57 of the 2008-2009 Catalog)

HEALTH INFORMATION TECHNOLOGY Prerequisite Changes (refer to page 112 of the 2008-2009 Catalog)

MATHEMATICS Course Description Changes (refer to Page 115 of the 2008-2009 Catalog)

MUS CORE Mathematics Course Addition

PHYSICAL THERAPIST ASSISTANT Associate of Applied Science **Curriculum Changes** (refer to Page 67 of the 2008-2009 Catalog)

PHYSICAL THERAPIST ASSISTANT COURSE DESCRIPTIONS **Updated** (refer Page 121 of the 2008-2009 Catalog)

PROGRAM COSTS Additional Program Cost Information

RESPIRATORY CARE Associate of Applied Science **Curriculum Change** (refer to Page 70 of the 2008-2009 Catalog)

SURGICAL TECHNOLOGY Collaborative Agreement Expiration (refer to Page 71 of the 2008-2009 Catalog)

SURGICAL TECHNOLOGY Course Description Changes *(refer to Page 125 of the 2008-2009 Catalog)*

ACADEMIC CALENDAR AND DIRECTORY

(Reflects changes to page 2 of the 2008-2009 Catalog after it went into print)

FALL SEMESTER 2008

Health Science Orientation.....August 28

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ADMISSIONS **Residency Requirements**

(Specifies Eligibility Requirements - Refer to page 6 of the 2008-2009 Catalog)

In-State completely online: A person classified as in-state, who *does not live* in the following counties – Glacier, Toole, Liberty, Hill, Pondera, Teton, Choteau, Lewis and Clark, Cascade, Judith Basin, Meagher, or Fergus – and is *ONLY* enrolling in online courses is able to receive adjusted tuition and mandatory fees.

The tuition and fee schedules can be found at: http://www.msugf.edu/adm_records/TuitionFees.htm

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BIOLOGY (BIO)

CURRICULA AND PREREQUISITE CHANGES

BIO 103 INTRODUCTION TO BIOLOGY/LAB

Credits: 4 (3 lecture, 1 lab)

Placement Required: Students must place into **MATH 103** or higher AND place into ENGL 121 or higher.

This course introduces basic biological principles including the cell, the interrelationship of structure and function, and the characteristics and classification of living things. Students will examine the five kingdoms of organisms (monera, protista, fungi, plants, animals), concentrating on vascular plants and vertebrate animals, as well as reproduction and basic ecological concepts. This general education course is designed for non-science majors. Laboratory experience will include experimentation, microscope work, observation, and dissection.

BIO 107 FUNDAMENTALS OF HUMAN BIOLOGY/LAB

Credits: 4 (3 Lecture, 1 lab)

Placement Required: Students must place into **MATH 103** or higher AND place into ENGL 121 or higher.

This one-term course covers the basics of human anatomy and physiology. All body systems will be examined. Fundamental principles of cellular chemistry, metabolism, anatomy and biology will be discussed as they related to the physiology of the human body. This course is designed for specialized endorsements and certificate programs. Completion of this introductory course is highly recommended as preparatory for students planning on entering health science pre-professional programs. Laboratory experience will include experimentation, microscope work, observation, and dissection.

BIO 127 ANATOMY AND PHYSIOLOGY I FOR NON-CLINICAL MAJORS

Credits: 4 (Lecture only; no lab)

This course is the first in an online, two-course sequence for non-clinical health majors which provides a comprehensive study of the anatomy and physiology of the human body. The course will take a systematic approach covering all body systems. Topics will include structure, function, and interrelationships of organ systems. The course will provide a foundation for students entering non-clinical health careers.

BIO 128 ANATOMY AND PHYSIOLOGY II FOR NON-CLINICAL MAJORS

Credits: 3 (Lecture only; no lab)

This course is the second in a two-course sequence for non-clinical health majors. The course will build on the topics explored in the first semester. Body systems will be covered in greater depth, and the focus will be on the interrelationships between systems. In addition to structure and function, an emphasis will be placed on the body processes which maintain homeostasis. The course will take a problem based approach allowing students to use critical thinking skills and apply knowledge from both semesters.

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BUSINESS MANAGEMENT
COURSE DESCRIPTION CHANGES

BUS 235 MARKETING

Credits: 3 (F,S)

Prerequisite: BUS 106

This course is designed to develop students' knowledge of marketing terminology and strategies. Subject areas covered include product development, the marketing concept, consumer behavior, research, pricing, channels of distribution, and promotion.

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CARPENTRY

ASSOCIATE OF APPLIED SCIENCE DEGREE

(NEW PROGRAM approved by BOR May, 2008)

Advisor: Patrick Schoenen

The Carpentry AAS degree program is designed to prepare students for entry-level employment at construction companies. The curriculum is aligned with the National Center for Construction Education and Research (NCCER) program curriculum. The training material is all standardized, competency-based, and task driven. The curricula are developed by the industry for the industry. Students will have the opportunity to earn national certification through NCCER for five of the five levels of NCCER curriculum. The student is then entered into a National Registry as having proven competence at the designated level. Program courses cover the basic to advanced fundamentals of:

- Safety, hand & power tools, & rigging.
- OSHA's 10 hr safety certification.
- Floor systems, wall, ceiling, & roof framing, windows & doors, basic stair layout, exterior finishes, roof applications, barriers, & metal studs.
- Concrete and its uses, foundations and flat work along with basic site layout protocol.
- Estimating and reading plans.
- Computer Aided Drafting (CAD).
- Intro to Business.

The program will take advantage of internship opportunities along with various hands on projects.

Students entering the program should have good manual dexterity skills, good physical condition, like to work outdoors in changing weather conditions and be comfortable working at varying heights.

Outcomes: Graduates are prepared to:

- Use construction skills in an entry-level residential or commercial construction job.
- Have possibilities of having the required apprenticeship time reduced.
- Utilize oral, written and listening skills to demonstrate an understanding of business practices and effectively interact with others.

Estimated Resident Program Cost:

Tuition and Fees	\$8998
Application Fee	\$30
Lab Fees	\$60
Books/Supplies	\$750
TOTAL:	\$9988

FALL SEMESTER 1

Course No.	Title	Credits
MATH 100	Math for the Trades	3
CNST 100*	Fundamentals of Construction Technology	3
CNST 115*	Construction Calculators & Estimating	1
CARP 120*	Carpentry Basics and Rough-in Framing	6
CARP 150*	Beginning Carpentry Practicum (90 hrs)	<u>3</u>
Subtotal		16

SPRING SEMESTER 1

Course No.	Title	Credits
COMM 135	Interpersonal Communication	3
ENGL 119**or higher		3-4
CNST 120*	Introduction to Site Layout & Concrete Basics	3
CNST 150*	Construction Site Safety	2
CARP 130*	Exterior Finishing, Stair Construction, and Metal Stud Framing	4
CARP 152*	Intermediate Carpentry Practicum (90 Hours)	<u>3</u>
Subtotal		18-19

SUMMER SEMESTER

Course No.	Title	Credits
CARP 240*	Summer Carpentry Internship (135-270 hrs)	<u>3-6</u>
Subtotal		3-6

FALL SEMESTER 2

Course No.	Title	Credits
DRFT 156	Introduction to CAD	3
WELD 151*	Welding for Carpenters	2
CARP 230*	Advanced Roof, Floor, Wall, and Stair Systems	6
CARP 250*	Advanced Carpentry Practicum (90 hrs)	<u>3</u>
Subtotal		14

SPRING SEMESTER 2

Course No.	Title	Credits
BUS 106	Introduction to Business	3
CNST 220*	Advanced Concrete Working	5
CARP 220*	Interior Finishing	5
CARP 252*	Capstone Carpentry Practicum (120 hrs)	4
Subtotal		17

Total Program Credits - 68-72~

~ Many students need preliminary math and English courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedule.

+ A grade of "C-" or above required for graduation | * Indicates co/prerequisites needed
 | ** Placement in course(s) is determined by placement assessment

CARPENTRY

CERTIFICATE OF APPLIED SCIENCE DEGREE

(NEW PROGRAM approved by BOR May, 2008)

Advisor: Patrick Schoenen

MSU-Great Falls COT carpentry program curriculum is aligned and accredited by the Center for Construction Education and Research (NCCER). The training material is all standardized, competency-based, and task driven. The curricula are developed by the industry for the industry. Students will have the opportunity to earn national certification through NCCER for two of the five levels of NCCER curriculum. The student then is entered into a National Registry as having proven competence at the designated level.

Outcomes: Graduates are prepared to:

- Demonstrate the communication and construction skills necessary for an entry-level residential or commercial construction job.
- Have the ability to transfer earned credits within the university system and continue their education for an advanced degree. (i.e. Associate of Applied Science or Bachelor's Degrees in Carpentry, Construction Management, Occupational Safety, Engineering, Electrical, Plumbing, etc.)
- Have gained insight as to which field of apprenticeship they may wish to choose. (i.e. carpenters, iron workers, labors, equipment operators, crane operators, electrician, plumbing, heating & A.C, sheet metal, etc.)
- Have completed experience which may reduce their on-the-job apprenticeship requirements.

The certificate program includes courses covering the basic fundamentals of:

- Safety, hand and power tools, rigging.
- OSHA's 10 hour safety certification,
- Floor systems; wall, ceiling, and roof framing; windows and doors; basic stair layout; exterior finishes; roof applications; barriers, and metal studs.
- Concrete and its uses, foundations and flat work along with basic site layout protocol.
- Estimating and reading plans.

The program will take advantage of internship opportunities along with hands-on projects.

Students entering the program should have good manual dexterity skills, good physical condition, like to work outdoors in changing weather conditions and be comfortable working at varying heights.

Estimated Resident Program Cost:

Tuition and Fees	\$4499
Application Fee	\$30
Lab Fees	\$60
Books/Supplies	\$750
TOTAL:	\$5039

FALL SEMESTER

Course No.	Title	Credits
MATH 100	Math for the Trades	3
CNST 100*	Fundamentals of Construction Technology	3
CNST 115*	Construction Calculators & Estimating	1
CARP 120*	Carpentry Basics and Rough-in Framing	6
CARP 150*	Beginning Carpentry Practicum (90 hrs)	3
Subtotal		16

SPRING SEMESTER

Course No.	Title	Credits
COMM 135	Interpersonal Comm.	3
ENGL 119**or higher		3-4
CNST 120*	Introduction to Site Layout & Concrete Basics	3
CNST 150*	Construction Site Safety	2
CARP 130*	Exterior Finishing, Stair Construction, and Metal Stud Framing	4
CARP 152*	Intermediate Carpentry Practicum (90 Hours)	3
Subtotal		18-19

Total Program Credits – 34-35~

~ Many students need preliminary math and English courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedule.

+ A grade of "C-" or above required for graduation | * Indicates co/prerequisites needed
 | ** Placement in course(s) is determined by placement assessment

CARPENTRY

NEW COURSE DESCRIPTIONS

CARPENTRY DESCRIPTIONS

CARP 120 CARPENTRY BASICS & ROUGH-IN FRAMING (F)

Credits: 6 59 hours lecture/75 hours shop

Co-Requisites: CNST 110, CNST 115, CARP 150

This course covers eight different module topics. It starts by introducing the carpentry trade, including history, career opportunities, and requirements. The course includes study and practice required for framing a simple structure. Specific topics are building materials, fasteners and adhesives, hand and power tools, reading plans & elevations, floor systems, wall and ceiling framing, roof framing and windows and exterior doors.

CARP 130 EXTERIOR FINISHING, STAIR CONSTRUCTION & METAL STUD FRAMING (S)

Credits: 4 37 hours lecture/70.5 hours shop

Co-Requisites: CNST 120, CNST 150, CARP 152

Pre-Requisites: CNST 110, CNST 115, CARP 120, CARP 150

Introduces students to materials and methods for thermal & moisture barriers, sheathing, exterior siding, stairs, and roofing. Students will layout and build a simple stair system as well as a metal stud wall with door and window openings.

CARP 150 BEGINNING CARPENTRY PRACTICUM (F)

Credits: 3 90 hours shop

Co-Requisites: CNST 110, CNST 115, CARP 120

Provides hands-on experience in which the student applies, with minimal supervision the basic skills and knowledge presented thus far in the NCCER Carpentry Program. This course is designed as a practical task-oriented application utilizing the basic skills covered in prerequisites as well as in parts of CARP 130.

CARP 152 INTERMEDIATE CARPENTRY PRACTICUM (S)

Credits: 3 90 hours shop

Co-Requisites: CNST 120, CNST 150, CARP 130

Pre-Requisites: CNST 110, CNST 115, CARP 120, CARP 150

Provides hands-on experience in which the student applies with supervision the basic skills and knowledge presented thus far in the NCCER Carpentry Program. The course is designed as a practical task-oriented application. The course will emphasize basic application in the area of interior and exterior finishing.

CARP 220 INTERIOR FINISHING (S)

Credits: 5 32 hours lecture/85.5 hours shop

Co-Requisites: CNST 220, CARP 252

Pre-Requisites: WELD 151, CARP 230, CARP 250

This course studies interior building materials. Course material ranges from installation techniques for interior trim, countertop, base & wall cabinets, suspended ceiling, wood & metal doors.

CARP 230 ADVANCED ROOF, FLOOR, WALL & STAIR SYSTEMS (F)

Credits: 6 62 hours lecture/43 hours shop

Co-Requisites: WELD 151, CARP 250

Pre-Requisites: CNST 120, CNST 150, CARP 130, CARP 152

This class takes off from where CARP 120 & 130 finished. Students will elevate their study in various installation methods and materials for various roofing, & flooring systems. Under wall systems students will study interior & exterior wall construction methods for residential and commercial structures. To add to the student's knowledge learned in CARP 130, Stair Construction & Metal stud framing, students will study staircase construction and metal building construction.

CARP 240 SUMMER CARPENTRY INTERNSHIP (SU)**Credits:** 3-6 135-270 hours**Pre-Requisites:** CNST 120, CNST 150, CARP 130, CARP 152

An internship is individually based. The intent is to allow students who have met the prerequisites an opportunity to experience work out in the industry before committing to full-time employment. Some students may use it as an opportunity to get employment within a company while many students will use it as a means of broadening their perspective as to types of construction work available and the daily operations of companies.

CARP 250 ADVANCED CARPENTRY PRACTICUM (F)**Credits:** 3 90 hours shop**Co-Requisites:** WELD 151, CARP 230**Pre-Requisites:** CNST 120, CNST 150, CARP 130, CARP 152

Provides students the opportunity to practice skills they have acquired in the entire carpentry program. It includes task-oriented projects in which students can apply many of the skills and knowledge that they have been presented throughout the NCCER Carpentry Program. This course is designed as a practical task-oriented exercise utilizing a variety of the skills covered in all the NCCER Modules and provides the necessary time for taking the Performance assessments' for certification under NCCER.

CARP 252 CAPSTONE CARPENTRY PRACTICUM (S)**Credits:** 4 120 hours shop**Co-Requisites:** CNST 220, CARP 250**Pre-Requisites:** WELD 151, CARP 230, CARP 250

The course is designed as a practical task-oriented application utilizing the ADVANCED skills learned in CARP 220 & 230. The course will emphasize advanced application in the area of exterior and interior finishing. This course provides hands-on experience in which the students take the Performance Assessments for certification under NCCER with MINIMAL supervision using the skills and knowledge presented in the NCCER Carpentry program.

CONSTRUCTION DESCRIPTIONS

CNST 100 FUNDAMENTALS OF CONSTRUCTION TECHNOLOGY (F)**Credits:** 3 47.5 hours lecture**Co-Requisites:** CNST 115, CARP 120, CARP 150

This course is the Core Curriculum for Introductory Craft Skills under the National Center for Construction Education (NCCER). This course is NCCER's basic course for all construction, maintenance and pipeline occupations. This course covers basic safety obligations of workers, supervisors and managers; reviews the role of company policies and OSHA regulations; introduces trainees to hand and power tools widely used in the construction industry, and their proper uses. Students will also become familiarized with basic blueprint terms, components and symbols.

CNST 115 CONSTRUCTION CALCULATORS & ESTIMATING (F)**Credits:** 1**Co-Requisites:** CNST 110, CARP 120, CARP 150

This course is specific to the uses of calculator specific to construction. (I.e. Master Pro) for task such as weight, volume, rises/run, diagonals, slopes etc. Also included is basic estimating specific to the carpentry field.

CNST 120 INTRODUCTION TO SITE LAYOUT & CONCRETE BASICS (S)**Credits:** 3 35 hours lecture/37.5 hours shop**Co-Requisites:** CNST 150, CARP 130, CARP 152**Pre-Requisites:** CNST 110, CNST 115, CARP 120, CARP 150

A study of the various techniques for concrete utilization in residential and light construction from the theoretical concepts of hydration to the practical experience of verifying site conditions; interpreting data used to establish conditions of level, square, plumb, parallel; and perpendicular; tying steel; and placing and finishing a concrete slab.

CNST 150 CONSTRUCTION SITE SAFETY (S)

Credits: 2 24 hours lecture/5 hours shop

Co-Requisites: CNST 120, CARP 130, CARP 152

Pre-Requisites: CNST 110, CNST 115, CARP 120, CARP 150

Following the NCCER Core Curriculum unit, the student will cover the basics of slings, hitches, rigging hardware, sling stress, hoist and rigging operations and practices. It also includes industry standard OSHA 10-hour construction training. Students who successfully complete the OSHA training will earn a course completion card recognized and generally required by most construction sites.

CNST 220 ADVANCED CONCRETE WORKING (S)

Credits: 5 73.5 hours shop/49 hours lecture

Co-Requisites: CARP 220, CARP 252

Pre-Requisites: WELD 151, CARP 230, CARP 250

Provides basic knowledge of concrete materials and tools and provides hands-on experience in which the student applies with supervision those basic skills and knowledge presented in the area of concrete. The course is designed as a practical task-orientated application utilizing the basic skills learned in CNST 120. The course will emphasize the advanced application in the area of concrete foundations, flatwork, forms, reinforcing, handling, and placing concrete.

WELDING DESCRIPTIONS

WELD 151 WELDING FOR CARPENTERS (F)

Credits: 2

Co-Requisites: CARP 230, CARP 250

Pre-Requisites: CNST 120, CNST 150, CARP 130, CARP 152

This course is specifically designed to teach students the basic welding methods that a carpenter might face (i.e. steel studs). Students will cover basic welding processes used in the trade applications.

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COLLEGE STUDIES
COURSE DESCRIPTION CHANGES

COLS 100

EFFECTIVE ACADEMIC PRACTICES

(F, S)

Credits:3

No Longer Pass/Fail Basis

The course is designed to help freshman make a smooth transition to college life and to help students maximize their potential in all courses.

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COMPUTER INFORMATION TECHNOLOGY **COURSE DESCRIPTION/PREREQUISITE CHANGES**

CIT 229 WEB PAGE CONSTRUCTION

Credits: 3 (F)

Prerequisites: CIT 110/111 and CIT 120, or **with instructor's permission**

This course focuses on the skills and concepts necessary to create effective web pages that include links, graphics, sound, tables, forms, and style sheets using common editors. Other utilities, such as image mapping and graphics editing software, will also be examined and utilized.

CIT 231 WEB PAGE DESIGN

Credits: 3 (S)

Prerequisites: CIT 110/111

This course concentrates on employing high profile, advanced applications to develop skills in the craft of web design and development. Students will research the essentials of good Web design and will master the skills necessary to create their own styles and designs. Management of community client sites will be established and published.

CIT 280 DESKTOP PUBLISHING

Credits: 3 (S)

Prerequisite: CIT 110/111 **and GSDN 217**

Students learn to design, prepare, edit, and enhance publications by integrating text, graphics, spreadsheets, and charts that have been created in other software programs. They build skills in using a desktop publishing software program by creating publications such as newsletters, brochures, advertisements, programs, business cards, and stationery.

CIT 290 NEW WEB TECHNOLOGIES (NEW COURSE)

Credits: 3 (S)

Prerequisite: CIT 110/111

With the ever-changing world of the Internet, adjustments and applications regularly appear that make our interaction with others, both, actually and virtually, richer, more interactive, and more immediate. This course researches and examines these developments, making a thoughtful and deep analysis of the latest trends and implementations in Web technologies, along with developing judgments about their effectiveness and predictions about their enduring qualities.

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**ASSOCIATE OF ARTS DEGREE
WITH ELEMENTARY EDUCATION TRANSFER TO
MSU-NORTHERN – ELEMENTARY EDUCATION**
(Replaces curricula on Page 84 of the 2008-2009 Catalog)

The Associate of Arts with articulated coursework in Elementary Education is designed for students interested in a baccalaureate degree in Elementary Education at Montana State University-Northern. A final cumulative grade point average of at least 2.5 is required. Students must provide proof of a current 1st Aid/CPR card prior to entering their junior year at MSU-Northern.

NOTE: Courses taken to fulfill one specific requirement, including courses in the Concentration or Elective blocks, may not be used to fulfill another specific requirement; thus, a course taken to fulfill the Cultural Diversity requirement in the Montana University System Core may not be used as an Elective.

I. MUS CORE - 31 SEMESTER HOURS

COMMUNICATION--6 CREDITS

Course No.	Title	Credits
ENGL 121**	Composition I	3
COMM 135	Interpersonal Communication	3

MATHEMATICS--3 CREDITS

Course No.	Title	Credits
MATH 130**	Pre-calculus Algebra	4
MATH 131**	Pre-calculus Trigonometry	3
MATH 161**	College Algebra w/ Science App3	3
MATH 181**	Calculus I	4

HUMANITIES/FINE ARTS--6 CREDITS

Course No.	Title	Credits
ENGL 114	Intro to Literature	3
AND 1 of the following		
ART 101	Intro to Visual Arts	3
ART 114	Art Fundamentals	3
ART 140	Drawing I	3
DE 161	Introduction to Design	3
ENGL 210*	World Literature I	3
ENGL 211*	World Literature II	3
ENGL 217	Creative Writing	3
HUM 242	Gender & Equality	3
MUS 102	Fundamentals of Music	3
MUS 210	Music Appreciation	3
MUS 212	American Music	3
MUS 214	World Music	3
PHIL 101	Introduction to Philosophy	3
PHIL 232	Basic Ethics	3

NATURAL SCIENCE--7 CREDITS

(Must include 1 lab course)

Course No.	Title	Credits
BIO 103	Introduction to Biology/Lab	4
PHYS 130	Fund Physical Science Lab	4

SOCIAL SCIENCES/ HISTORY --6 CREDITS

Course No.	Title	Credits
HIST 210N	Montana History	3
PSY 109	Lifespan Development	3

CULTURAL DIVERSITY--3 CREDITS

Course No.	Title	Credits
NAS 201N	Montana's American Indians	3
NAS 215N	Native American Religious Trad	3

CULTURAL HERITAGE OF AMERICAN INDIANS--3 CREDITS

Courses with an "N" behind the course title will fulfill the Cultural Heritage of American Indians requirement as well as a designated core area requirement.

II. COMPUTER SKILLS/USAGE - 3 CREDITS

Course No.	Title	Credits
CIT 110	Introduction to Computers	3
CIT 111	Intro to Computers for Tech Majors	3

*or any CIT 3 credit hour course that has CIT 110 as a prerequisite

III. ARTICULATION COURSEWORK – 21 CREDITS

Course No.	Title	Credits
EDUC 201	Intro to the Education Experience	3
MATH 120	Math for Elementary Teachers	3
ENGL 122	Composition II	3
HHD 106	Drug & Health Issues for Ed	3
EDUC 240	Instructional Technology	3
EDPY 220	Educational Psychology	3
POLS 206	U.S. Government	3

IV. ELECTIVES - 5 CREDITS

Students may choose coursework numbered 100 or above from any discipline area to complete the required credits of electives. Students may not choose or may not count the following courses: MATH 100, MATH 103, MATH 104, MATH 108, ENGL 118, ENGL 119

NO MORE THAN 5 CREDITS OF COURSES NUMBERED 116 MAY BE APPLIED TOWARD THE DEGREE.

TOTAL PROGRAM CREDITS - 60

~Many students need preliminary math and English courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedule.

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**Placement in course(s) is determined by placement assessment

FINANCIAL AID
FEE WAIVER CLARIFICATION
(refer to page 17 of the 2008-2009 Catalog)

FACULTY AND STAFF FEE WAIVER

Tuition and some fees shall be waived for a maximum of 6 credits per term for permanent Montana University System employees who are employed at least $\frac{3}{4}$ time during the entire period of enrollment. Registration, building , program, required course fees, and other non-mandatory fees shall not be waived and remain the responsibility of the employee. Application form are available from the Financial Aid Office, or online at www.msugf.edu/finaid.statefeewaivers.htm.

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GRAPHIC DESIGN

Associate of Applied Science

(NEW Program approved by BOR 09/2008)

Advisor: Tim Paul

Outcomes: Graduates are prepared to:

- Create appropriate typographic solutions for a variety of applications and situations
- Decide the correct medium (printed materials, packages, manufacturing and fabrication techniques, environments, websites, kiosks, or virtual environments) based on use and overall intended effect on the viewer.
- Utilize aesthetics (principles of organization, composition, color, hierarchy, balance, contrast, emphasis, depth, rhythm, use of symbolism and overall level of craft in execution) to create an emotional impact
- Maintain a structured approach to creative process development (research, observation, analysis, prototyping, testing, evaluation) while remaining flexible and adapting to changing circumstances and parameters and giving rigorous and unflinching attention to detail.
- Work with diverse teams (clients, audiences, content providers, researchers, administrative personnel) in an intense collaborative environment.
- Persuade clients, creative directors, sponsors, colleagues to go along with a plan, and deliver the results of the plan on time.
- Ask precise questions, convert research into design strategy, and successfully evaluate and discuss their own design efforts and the efforts of others.

Estimated Resident Program Cost:

Tuition and Fees.....	\$6000
Application Fee.....	30
Lab Fees.....	70
Books/Supplies.....	1850
TOTAL.....	\$7950

FALL SEMESTER

Course No.	Title	Credits
ART 101	Intro to Visual Art	3+
ART 140	Drawing I	3+
BUS 106	Intro to Business	3+
CIT 110	Intro to Computers OR	
CIT 111	Intro to Comp. for Tech Majors	3 +
ENGL 124 **	Bus and Prof Communication	3+
GSDN 100	Intro to Graphic Design Seminar	<u>1+</u>
	SUBTOTAL	16

SPRING SEMESTER

Course No.	Title	Credits
ART 114	Art Fundamentals	3+
BUS 240*	Advertising	3+
COMM 135	Interpersonal Communication	3+
GSDN 109*	Digital Photography	4+
GSDN 130*	Typography	<u>3+</u>
	SUBTOTAL	16

FALL SEMESTER

Course No.	Title	Credits
BUS 235*	Marketing	3+
GSDN 217*	Digital Graphic Design	3+
GSDN 220*	Digital Illustration & Packaging	3+
MATH 104**	Business Math	4+
	Elective Option	<u>3+</u>
	SUBTOTAL	16

SPRING SEMESTER

Course No.	Title	Credits
CIT 231*	Web Page Design	3+
CIT 280*	Desktop Publishing	3+
GSDN 221*	Publishing and Pre-Press	3+
GSDN 222*	Capstone Portfolio/Internship	3+
	Elective Option	<u>3+</u>
	SUBTOTAL	15

TOTAL PROGRAM CREDITS – 63~

SUGGESTED ELECTIVES

Course No.	Title	Credits
CIT 205*	Database Management	3
CIT 229*	Web Page Construction	3
CIT 250*	Web Programming	3
CIT 290*	New Web Technologies	3

+ A grade of "C-" or above required for graduation | * Indicates co/prerequisites needed
 | ** Placement in course(s) is determined by placement assessment

GRAPHIC DESIGN

NEW COURSE DESCRIPTIONS

GSDN 100 INTRODUCTION TO GRAPHIC DESIGN SEMINAR

Credits: 1 (F)

This course is designed to introduce students to the career field of graphic design. Through exploratory activities focused on the different occupational fields graphic designers work in, students will gain an insight into the field of graphic design. Field trips to companies employing graphic designers will be incorporated into class.

GSDN 109 DIGITAL PHOTOGRAPHY

Credits: 4 (S)

Prerequisite: CIT 110/111 or permission of instructor

This course will instruct the student in fundamental concepts and techniques of photography, including aesthetics and technical aspects as a basis for creating a photographic image. The student will learn to use the camera, digital processing, and composition. Students will be introduced to the techniques of digital photography and computer imaging. Students will learn how to use photography as a creative tool for self-expression, social exploration, and still documentation.

GSDN 130 TYPOGRAPHY

Credits: 3 (S)

Prerequisite: Prerequisite: CIT 110/111 or permission of instructor

The eye is trained to appreciate the sensibilities and subtleties of typographic conventions such as kerning, leading, style, and practice. Students will gain a full understanding of vocabulary surrounding letter forms and the design of text. Symbolic communication inherent in different typefaces is also explored. Typographic relationships with other graphic elements are investigated through brochures, posters and other two-dimensional projects.

GSDN 217 DIGITAL GRAPHIC DESIGN (Replacing CIT 217)

Credits: 3 (F)

Prerequisite: CIT 110/111

Graphic design is a form of visual communication that sends a specific message to a specific audience. This course takes a thorough look into brainstorming, strategies/ techniques with graphics and layout, and the tools/equipment used to accomplish the design/concept at hand. The overall objective of the course will be a thorough examination and use of Adobe Photoshop to assemble strategies/processes and a firm understanding of the role of graphic design in print and web presentation.

GSDN 220 DIGITAL ILLUSTRATION & PACKAGING

Credits: 3 (F)

Co-requisite: GSDN 217

This is an intensive examination of materials and processes as they relate to the manipulation of forms for packaging. Through an understanding of the qualities inherent in various packaging materials, students produce a variety of packaging solutions dealing with shape, form and volume. Skills are sharpened by through a thorough examination and use

of the drawing capabilities of Adobe Illustrator, which will aid in the creation of packaging projects.

GSDN 221 PUBLISHING AND PRE-PRESS

Credits: 3 (S)

Prerequisites: GSDN 217

This course provides a technical background to the Designer. The course covers material related to the actual production of design materials that are often overlooked during education and usually learned by experience. Press-checks, color specifications and proofing, pre-press art, file preparation, paper selections, and characteristics will all be addressed as well as search engine optimization, buying a domain name and hosting. Field trips will be included.

GSDN 222 CAPSTONE PORTFOLIO/INTERNSHIP

Credits: 3 (S)

Prerequisites: GRD 217

A senior-level course dealing with the dynamics involved in the preparation of a highly professional and competitive portfolio for interviewing purposes. Discussion and analysis of student work under consideration for portfolio inclusion is emphasized. Interviewing techniques include preparation of an appropriate resume, personal letterhead, appropriate methods used for contacting potential employers, personal dress, and attitudes relating to the interview presentation process.

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HEALTH INFORMATION CODING SPECIALIST

CERTIFICATE OF APPLIED SCIENCE DEGREE

(Curriculum changes to program approved by BOR May, 2008 – refer to Page 57 of the 2008-2009 Catalog)

Advisor: Lynn Ward

This program is offered completely on-line.

Health information coding is the transformation of verbal descriptions of diseases, injuries and procedures into alphanumeric designations used for data retrieval, analysis, and claims processing.

Upon completion of the Certificate in Health Information Coding Specialist, students will be prepared to begin a successful career as a health information coding specialist. Students are prepared to sit for the National Certified Coding Associate exam administered through AHIMA. www.ahima.org

Outcomes: Graduates are prepared to:

- Analyze health records and assign appropriate codes according to national and international guidelines.
- Research and rely on knowledge in correct medical terminology, anatomy and physiology and disease processes to determine the correct codes and sequences.
- Use computer applications and software specific to the coding environment.
- Maintain confidentiality of health information and adhere to regulations pertaining to privacy laws and guidelines.
- Professionally interact in the healthcare environment with healthcare providers, patient/clients and the public.

The Health Information Coding Specialist Certificate program is approved through AHIMA and the Assembly on Education.

Students must complete all prerequisite coursework and meet for advisement with the HICS program director (via phone) before acceptance into the program.

Estimated Resident Program Cost:

Tuition and Fees.....	\$4499
Application Fee.....	30
Lab Fees.....	70
Books/Supplies.....	1850
TOTAL.....	\$6499

A grade of "C-" or above must be achieved in all courses to advance in the program and graduate.

NOTE: Curriculum is based on a full time schedule.

FALL SEMESTER

Course No.	Title	Credits
AH 101	Healthcare Delivery in the US	2+
AH 185	Basic Medical Terminology	3+
AH 194	Basic Pharmaceutical	1+
BIO 127	A&P I for nonclinical Majors	4+
CIT 110	Introduction to Computers	3+
MATH 103**	Introductory Algebra or higher	4+
Subtotal		17

SPRING SEMESTER

Course No.	Title	Credits
COMM 135	Interpersonal Comm. OR	
PSY 101	General Psychology OR	
SOC 111	Introduction to Sociology	3+
AH 201*	Medical Science	3+
ENGL 124**	Business and Prof Comm.	3+
HI 132*	Health Data Content & Structure	3+
HI 236*	ICD Coding	3+
HI 237*	CPT Coding	3+
Subtotal		18

SUMMER SEMESTER

Course No.	Title	Credits
OO 111*	Fundamentals of Insurance	4+
HI 256*	Intermediate ICD Coding	3+
HI 257*	Intermediate CPT Coding	3+
HI 270*	Professional Practice Experience	2+
Subtotal		12

TOTAL PROGRAM CREDITS – 47~

Recommended Course

Course No.	Title	Credits
HI 116	CCA Preparation	1

~ Many students need preliminary math and English courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedule.

+ A grade of "C-" or above required for graduation | * Indicates co/prerequisites needed
| ** Placement in course(s) is determined by placement assessment

HEALTH INFORMATION TECHNOLOGY

PREREQUISITE CHANGES

(refer to page 112 of the 2008-2009 Catalog)

HI 132 HEALTH DATA CONTENT AND STRUCTURE

Credits: 3

Prerequisites or Co-requisites: AH 185

This course provides orientation to the health information department and its organization interrelationships in healthcare facilities. This course also covers the content and format of the health record (both conventional and alternative formats), quantitative and qualitative analysis of the record according to regulatory and accreditation standards, numbering, filing, retention, storage, and destruction of records. Application will be provided using extensive discussion and assignments designed to approximate real life situations.

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MATHEMATICS (MATH)

COURSE DESCRIPTION CHANGES

MATH 108 INTERMEDIATE ALGEBRA (NEW Course Title)

Credits: 4

Prerequisite: MATH 103 or qualifying placement assessment score within the past 3 years

This course offers a review of elementary algebra with further emphasis on systems of equations, determinants, systems of inequalities, rational expressions, radical expressions, complex numbers, quadratic equations, and exponential and logarithmic functions.

MATH 128 COLLEGE ALGEBRA NEW Course

Credits: 3

Prerequisite: MATH 108 with "C-" or better

Topics investigated include: mathematical number systems; linear, exponential, and logarithmic functions and their graphs; statistics; integrated fractional parts including the Apothecary and Metric systems and conversions; chemical and dosage calculations; and dimensional analysis.

MATH 130 PRECALCULUS ALGEBRA (Prerequisite Modified)

Credits: 4

Prerequisite: MATH 108 with a grade of "B-" or better, or a MATH 128 with a grade of "C-" or better

An extended study of algebra preparing students for further work in mathematics, and in particular, Calculus. Course topics include the fundamental properties of real and complex numbers, functions (polynomial, rational, radical, exponential and logarithmic), conics, matrices, determinants, sequences, series and the binomial theorem.

MATH 131 PRECALCULUS TRIGONOMETRY (Prerequisite Modified)

Credits: 3

Prerequisite: MATH 108 with a grade of "B-" or better, or a MATH 128 with a grade of "C-" or better

An extensive look at trigonometric functions and identities, Law of Sines and Cosines, polar coordinates, inverse functions, vectors, and parametric equations is the basis of this course.

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MONTANA UNIVERSITY SYSTEM CORE

Math course added to MUS Core (refer to page 34-35 of the 2008-2009 catalog)

In our world of rapid economic, social, and technological change, students need a strong and broadly-based education. General education helps students achieve the intellectual integration and awareness they need to meet challenges in their personal, social, political, and professional lives. General education courses introduce great ideas and controversies in human thought and experience. A solid general education provides a strong foundation for the life-long learning that makes career goals attainable. The breadth, perspective, and rigor provided by the core curriculum helps students become educated people.

Montana State University-Great Falls College of Technology's General Education Core reflects the Montana University System's General Education Core. As students work on the Montana University System General Education Core, they should attempt to select classes that are also required in their major. That efficient use of coursework could help students complete their degrees more quickly, since the classes could be used to satisfy both the requirements of the major and the requirements of the MUS General Education Core. After completion of core requirements students will be able to:

Demonstrate understanding of major findings and ideas in a variety of disciplines.

Demonstrate understanding of methods, skills, tools and systems used in a variety of disciplines, and historical, theoretical, scientific, technological, philosophical, and ethical bases in a variety of disciplines.

Use appropriate technologies to conduct research on and communicate about topics and questions; to access, evaluate and manage information; to prepare and present their work effectively, and to meet academic, personal, and professional needs.

Demonstrate critical analysis of arguments and evaluation of an argument's major assertions, its background assumptions, the evidence used to support its assertions, and its explanatory utility.

Understand and articulate the importance and influence of diversity within and among cultures and societies.

Understand and apply mathematical concepts and models.

Communicate effectively, through written and oral communication and through other forms as appropriate.

STUDENT LEARNING OUTCOMES FOR MSU-GREAT FALLS

COLLEGE OF TECHNOLOGY CORE:

Communication

(English Composition and Oral Communication):

Demonstrate an understanding of writing as a series of tasks, including finding, evaluating, analyzing, and synthesizing appropriate sources, and as a process that involves composing, editing, and revising.

Demonstrate critical reading and analytical skills, including understanding an argument's major assertions and assumptions and how to evaluate its supporting evidence.

Demonstrate research skills, integrate one's own ideas with those of others, and apply the conventions of attribution and citation correctly.

Use Standard Written English and edit and revise one's own writing for appropriateness.

Enhance the fluency and range of vocabulary and syntax with which to meet the requirements of different rhetorical situations.

Develop proficiency in oral discourse.

Produce and deliver a clear, well organized verbal presentation.

Interact in a collaborative, synergistic manner within a small-group problem-solving meeting.

Use appropriate technologies to conduct research on and communicate about emerging issues and to access, evaluate, and manage information to prepare and present one's work effectively.

Demonstrate understanding of the interconnections of knowledge within and across disciplines.

Mathematics:

Interpret mathematical modes given verbally, or by formulas, graphs, tables, or schematics, and draw inferences from them.

Represent mathematical concepts verbally, and where appropriate, symbolically, visually, and numerically.

Use arithmetic, algebraic, geometric, technological, or statistical methods to solve problems.

Use mathematical reasoning with appropriate technology to solve problems, test conjectures, judge the validity of arguments, formulate valid arguments, check answers to determining reasonableness, and communicate the reasoning of the results.

Recognize and use connections within mathematics and between mathematics and other disciplines.

Humanities/Fine Arts:

Investigate the role and values of art in human life and demonstrate an understanding of the significance of specific art forms to the cultures that create and adopt them.

Describe specific processes by which works of painting, sculpture, architecture, music, dance, theater, film, multi media, or environmental art are created.

Demonstrate the dependence of meaning upon cultural and historical context when analyzing works of art.

Compare and contrast one work of art with another or one medium with another to illuminate both.

Investigate the variety of human culture and demonstrate an understanding of the ways in which cultures have changed.

Understand and employ a wide range of humanistic, qualitative, quantitative, theoretical, or philosophical methods for recording and explaining human experience.

Identify and assess one's own and others' values; identify the underlying premises in one's own and others' arguments.

Investigate the role and value of literature in human life and demonstrate an understanding of the significance of specific literary works or genres to the cultures that create them and adopt them.

Identify and use a variety of arts materials, techniques and resources while creating works of art.

Natural Science:

Use quantitative information and/or mathematical analysis to obtain sound results and recognize questionable assumptions.

Demonstrate understanding of the broad principles of science and the ways scientists in a particular discipline conduct research.

Make observations, understand the fundamental elements of experimental design, generate and analyze data using appropriate quantitative tools, use abstract reasoning to interpret the data and formulae, and test hypotheses with scientific rigor.

Understand the role that human diversity plays in the practice and history of science.

Demonstrate proficiency in the collection, interpretation, and presentation of scientific data.

MUS CORE (CONTINUED)

Social Sciences/History:

Demonstrate knowledge of findings and theories in the social and behavioral sciences.

Demonstrate an understanding of investigative methods used in the social and behavioral sciences.

Demonstrate critical thinking about arguments in the social and behavioral sciences and evaluate an argument's major assertions, its background assumptions, the evidence used to support its assertions, and its explanatory utility. Demonstrate knowledge of important findings and theories in social and political history.

Demonstrate an understanding of investigative methods used in social and political history.

Cultural Diversity:

Investigate major issues and scholarly approaches related to diversity.

Analyze concepts and implications of diversity.

Demonstrate an understanding of historical, cultural, social, or political conditions and the ways in which they influence the status, treatment, or accomplishments of various groups.

Articulate how diversity helps shape the role of the individual and the interconnections and relationships within and among groups across societies and cultures

Cultural Heritage of American Indians:

Courses include significant content related to the cultural heritage of American Indians.

MONTANA UNIVERSITY SYSTEM CORE COURSES

Offered Online and On Campus.

COMMUNICATION--6 CREDITS

(Need 3 writing & 3 verbal credits)

Course	No.	Title	Credits	Grade
ENGL	121**	Composition	3†	_____
		AND 1 of the following		
COLS	101	First Year Seminar	3†	_____
COMM	130	Public Speaking	3†	_____
COMM	135	Interpersonal Communication	3†	_____

MATHEMATICS--3 CREDITS

Course	No.	Title	Credits	Grade
MATH	128	College Algebra	3+	_____
MATH	130**	Precalculus Algebra	4†	_____
MATH	131**	Precalculus Trigonometry	3†	_____
MATH	150**	Math for Liberal Arts	3†	_____
MATH	161**	College Algebra w/ Science App	3†	_____
MATH	181**	Calculus I	4†	_____
MATH	216**	Basic Statistics	4†	_____

HUMANITIES/FINE ARTS--6 CREDITS

Course	No.	Title	Credits	Grade
ART	101	Intro to Visual Arts	3†	_____
ART	114	Art Fundamentals	3†	_____
ART	140	Drawing I	3†	_____
DE	161	Introduction to Design	3†	_____
ENGL	114	Intro to Literature	3†	_____
ENGL	210*	World Literature I	3†	_____
ENGL	211*	World Literature II	3†	_____
ENGL	217	Creative Writing	3†	_____
HUM	242	Gender & Equality	3†	_____
MUS	102	Fundamentals of Music	3†	_____
MUS	210	Music Appreciation	3†	_____
MUS	212	American Music	3†	_____
MUS	214	World Music	3†	_____
PHIL	101	Introduction to Philosophy	3†	_____
PHIL	232	Basic Ethics	3†	_____

NATURAL SCIENCE--7 CREDITS

(Must include 1 lab course)

Course	No.	Title	Credits	Grade
BIO	103**	Introduction to Biology/Lab	4†	_____
BIO	107**	Fund of Human Biology/Lab	4†	_____
BIO	151*	Molecular & Cellular Biology/Lab	4†	_____
BIO	152	Organismal Biology/Lab	4†	_____
BIO	205	Personal Nutrition	3†	_____
CHM	111*	Inorganic Chemistry/Lab	4†	_____
CHM	131*	General Chemistry I	4†	_____
CHM	132*	General Chemistry II	4†	_____
GEOG	101	Introduction to Geology	4†	_____
PHYS	110	Survey of Natural Sciences	3†	_____
PHYS	130	Fund Physical Science w/Lab	4†	_____

SOCIAL SCIENCES / HISTORY --6 CREDITS

Course	No.	Title	Credits	Grade
ECNS	202	Principles of Macroeconomics	3†	_____
ECNS	201	Principles of Microeconomics	3†	_____
HIST	103N	History of the U.S. I	3†	_____
HIST	104N	History of the U.S. II	3†	_____
HIST	106	History of Western Civ I	3†	_____
HIST	107	History of Western Civ II	3†	_____
HIST	210N	Montana History	3†	_____
PSY	101	General Psychology	3†	_____
PSY	109	Lifespan Development	3†	_____
SOC	111	Introduction to Sociology	3†	_____
SOC	115	Survey of Criminal Justice	3†	_____
POLS	206	U.S. Government	3†	_____

CULTURAL DIVERSITY--3 CREDITS

Course	No.	Title	Credits	Grade
ANT	101	Intro to Anthropology	3†	_____
BUS	249	Global Marketing	3†	_____
ENGL	214N	Literature of the West	3†	_____
HUM	244	American Cultural Values	3†	_____
ML	121	Intro to American Sign Lang	3†	_____
NAS	201N	Montana's American Indians	3†	_____
NAS	215N	Native American Religious Trad	3†	_____

CULTURAL HERITAGE OF AMERICAN INDIANS--3 CREDITS

Courses with an "N" behind the course title will fulfill the Cultural Heritage of American Indians requirement as well as a designated core area requirement.

TOTAL CREDITS – 31

~Many students need preliminary math, English or biology courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedules.

As students work on the MUS general education core, they should attempt to elect classes that are required in their major. That efficient use of coursework could help students complete their degree more quickly, since the classes could be used to satisfy both the requirements of the major and the requirements of the MUS General Education Core.

Students should consult with the intended receiving institution to determine whether or not additional core courses may be required to satisfy that institution's General Education Core.

Upon completion of the General Education Core, please notify the Registrar to have the core indicated on your transcript. A form requesting that the MUS Core be transcribed is available in Student Central and on the web site at http://www.msugf.edu/adm_records/pdfs/TranscriptMUScore.pdf. This will need to be turned in to the Registrar's Office upon completion of the program.

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**PHYSICAL THERAPIST ASSISTANT
ASSOCIATE OF APPLIED SCIENCE DEGREE**

(Curriculum changes to program approved by BOR May, 2008 – refer to Page 67 of the 2008-2009 Catalog)

Advisor: Andrea Johnson

The formal portion of the Physical Therapist Assistant (PTA) program begins fall semester with a limited enrollment of 16 students. There may be up to 4 alternates for the program. There are 32 credits of pre-requisite courses which may take one year or longer to complete. All pre-requisite coursework must be completed with a grade of "C-" or higher. The student must apply for acceptance into the formal portion of the PTA program and be accepted. A grade of "C-" or "pass" is required for all coursework within the PTA program after formal acceptance.

The formal portion of the PTA program is challenging and consists of fall, spring, and summer semesters; taking one full year. This time includes built-in clinical experiences which may or may not be in the Great Falls area. Upon completion of the PTA program, the graduate is prepared to take the national board examination for physical therapist assistants provided by the Federation of State Boards of Physical Therapy and must receive a passing score in order to become a licensed PTA. Licensure is required to practice as a physical therapist assistant in Montana and is overseen by the State of Montana Board of Physical Therapy Examiners.

The PTA program is designed to graduate individuals who are knowledgeable, competent, self-assured, adaptable, and service-oriented patient/client care providers performing their duties within the ethical and legal guidelines of the physical therapy profession as an entry-level PTA having successfully passed the NPTAE. Graduates are prepared to work in a variety of healthcare settings including acute care, outpatient, rehabilitation, and extended care.

The Montana State University - Great Falls College of Technology's Physical Therapist Assistant program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE).

Outcomes - Graduates are prepared to:

- Demonstrate theoretical knowledge, patient care skills, ethical guidelines, and affective qualities related to physical therapy practice;
- Demonstrate safe, effective, moral, and ethical behavior in the realm of physical therapy practice;
- Skillfully integrate related concepts and theories of liberal arts and basic science in the realm of physical therapy practice;
- Utilize effective communication skills, critical thinking, and planning skills in the realm of physical therapy practice; and
- Display a commitment to lifelong learning, ongoing professional development, and excellence in the realm of physical therapy practice.

Estimated Resident Program Cost:

Tuition and Fees	\$6973
Application Fee	\$30
Lab Fees	\$340
Books/Supplies	\$2000
TOTAL:	\$9343

Updated PTA Curriculum continued on the next page

PHYSICAL THERAPIST ASSISTANT ASSOCIATE OF APPLIED SCIENCE DEGREE

(Continued...)

Background in basic sciences and proficiency in computer skills are essential to success in the Physical Therapy Assistant Program. Prior to fall admission into the PTA program students must:

- Students applying to get into these programs, must apply and be accepted by the College for general admission.
- Have completed high school physics AND chemistry (students without high school coursework in these areas should consult the PTA Program Director as to the appropriate college courses needed to meet this requirement)
- Have completed a minimum of 40 hours of observation at physical therapy clinics/facilities with a licensed physical therapist or physical therapist assistant in at least 2 different settings; observation forms are available at www.msugf.edu
- Show proof of computer literacy (students without high school coursework in this areas should consult the PTA Program Director as to the appropriate college courses needed to meet this requirement)
- Earn a Grade Point Average of 2.5 or higher on pre-requisite courses
- Earn a grade of "C-" or higher in all pre-requisite courses
- Provide three completed "Recommendation Forms" with PTA Application
- Provide completed "Application Packet Cover & Check-off Sheet" with PTA Application
- Provide completed "Application Self-Evaluation Form" with PTA Application
- Potential applicants should ensure immunizations and CPR training requirements are met. Submission of proof of immunizations, 2 PPDs, and CPR certification is required **after** formal acceptance to the PTA Program.

PRE-REQUISITE COURSES

Course No.	Title	Credits
AH 185	Basic Medical Terminology	3+
SOC 111	Introduction to Sociology	3+
BIO 213**	Anatomy & Phys I Lecture/Lab	4+
BIO 214*	Anatomy & Phys II Lecture/Lab	4+
COMM 135	Interpersonal Communication	3+
ENGL 121**	Composition I	3+
MATH 161**	Algebra w/ Science Applications	3+
PSY 101	General Psychology	3+
PSY 109	Lifespan Development	3+
PTA 105	Introduction to PTA	<u>3+</u>
Subtotal		32

PROGRAM REQUIREMENTS AFTER FORMAL ACCEPTANCE

FALL SEMESTER

Course No.	Title	Credits
PTA 101*	Physical Therapist Assisting I/Lab	5+
PTA 205*	Anatomy & Kinesiology for the PTA/Lab	6+
PTA 206*	Pathophysiology for the PTA	3+
PTA 210*	Clinical Experience I (4-week)	3+
PTA 207*	Nutrition and Wellness for the PTA	<u>1±</u>
Subtotal		18

SPRING SEMESTER

Course No.	Title	Credits
PTA 201*	Physical Therapist Assisting II/Lab	5+
PTA 213*	Neurorehabilitation for the PTA/Lab	7+
PTA 215*	Introduction to Orthopedics for the PTA/Lab	4+
PTA 220*	Clinical Experience II (4-week)	<u>3±</u>
Subtotal		19

SUMMER SEMESTER

Course No.	Title	Credits
PTA 225*	PTA Seminar	3+
PTA 230*	Clinical Experience III 8-week)	<u>5±</u>
Subtotal		8

TOTAL PROGRAM CREDITS – 77~

~Many students need preliminary math, English, and biology courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedules.

+ A grade of "C-" or above required for graduation | * Indicates co/prerequisites needed
| ** Placement in course(s) is determined by placement assessment

PHYSICAL THERAPIST ASSISTANT

NEW COURSE DESCRIPTIONS

PTA 101 PHYSICAL THERAPIST ASSISTING I/LAB (F)
Credits: 5 (3 Lecture, 2 Lab) 45 Lecture Hours / 60 Lab Hours

This is the first of two sequential skills and procedures courses in the PTA program. The following topics are covered: basic principles and procedures of physical therapy; basic care skills and application techniques; use of assistive devices; architectural and environment barriers; introduction to range of motion (ROM); introduction to pain theories, conditions, and assessment; and physiological principles, indications/contraindications, and application of physical agents discussed in lecture.

PTA 105 INTRODUCTION TO PHYSICAL THERAPIST ASSISTING (F, S, SU)
Credits: 3 45 Lecture Hours

This course is designed to give the student an overview of the Physical Therapy profession by providing a historical perspective, as well as, an understanding of its philosophy in relation to the professional organization; an overview of the roles of the Physical Therapy staff members in the clinical setting, as well as, members of the health care team in various delivery systems; development of interpersonal communication skills relating to the profession; and an understanding of the commitment of the graduate to continued personal and professional development. This course provides an overview of ethical, legal, and psychosocial issues relating to the role of the PTA in health care delivery. It includes such topics as the implications of chronic illness; the aging process and death/dying; client's role in health management; financing of physical therapy; regulations governing PTAs; code of ethics; scope of PT and PTA practice; and the PTA's role in departmental administration.

PTA 201 PHYSICAL THERAPIST ASSISTING II/LAB (S)
Credits: 5 (3 Lecture, 2 Lab) 45 Lecture Hours / 60 Lab Hours

This is the second of the two sequential skills and procedures courses in the PTA program. The following topics are covered: theoretical principles and application of chest physical therapy, biofeedback, topical applications, electrotherapy, ultrasound, and ultraviolet; procedure and application of cervical and lumbar traction; gait analysis and training; theory and application of massage; measurements and principles of therapeutic exercise.

PTA 205 ANATOMY AND KINESIOLOGY FOR THE PHYSICAL THERAPIST ASSISTANT/LAB (F)
Credits: 6 (4 Lecture, 2 Lab) 60 Lecture Hours / 60 Lab Hours

This course is designed to provide the student with an understanding of: the human musculoskeletal system relative in the biomechanical elements of normal and abnormal human motion; physiology of exercise and its effects on movement and daily activity; and osteology and arthrology in relation to muscle action and joint mechanics. The study of goniometry, manual muscle testing, joint mobilization and athletic taping will also be presented.

PTA 206 PATHOPHYSIOLOGY FOR THE PHYSICAL THERAPIST ASSISTANT (F)
Credits: 3 45 Lecture Hours

This course introduces the student to the pathophysiology; etiology; clinical signs and symptoms; and management of selected pathological and injury-related disorders treated in physical therapy. Other pathologies discussed include: diabetes mellitus, immune system disorders, neoplasms, and disorders related to pregnancy. The course includes student presentations on disorders pertinent to physical therapy.

PTA 207 NUTRITION AND WELLNESS FOR THE PTA (F)
Credits: 1 15 Lecture Hours

This course introduces the physical therapist assistant student to current health practices and theory of nutrition and wellness. Health and assessment topics may include: body composition, cardiovascular fitness, injury prevention and pain, infectious disease, stress, weight management and nutrition for health, establishing physical fitness goals, planning for physical strength improvement and/or maintenance, lifestyle choices and assess how those choices may influence work situations including interactions with patients, and other dimensions of wellness.

PTA 210 CLINICAL EXPERIENCE I (F)
Credits: 3 180 clinical hours, 4 weeks in length

The purpose of this clinical affiliation is to provide the student with an opportunity to apply skills and techniques learned in PTA 105, 101, 205, 206, and 207 under the appropriate supervision of the clinical instructor. This course will include a four-week clinical rotation at an approved site.

PTA 213 NEUROREHABILITATION FOR THE PHYSICAL THERAPIST ASSISTANT/LAB (S)
Credits: 7 (6 Lecture, 1 Lab) 90 Lecture Hours / 30 Lab Hours

This course is an introduction to neuroanatomy and neurophysiology in relationship to neurological pathologies of the brain and spinal cord commonly treated by physical therapy. Through this course the student is also introduced to neurological development: normal vs. abnormal - birth through adult; disease processes and outcomes; and neurophysiological routines used for treatment. Principles and treatment of specific disabilities are also presented.

PTA 215 INTRODUCTION TO ORTHOPEDICS FOR THE PHYSICAL THERAPIST ASSISTANT/LAB (S)
Credits: 4 (3 Lecture, 1 Lab) 45 Lecture Hours / 30 Lab Hours

This course introduces students to pediatric and adult musculoskeletal pathologies and management of orthopedic and surgical problems commonly seen by physical therapy.

Course content will include:

1. Basic biomechanics and mechanisms of orthopedic injuries and diseases
2. Survey of surgical repair with emphasis on rehabilitation
3. Evaluation techniques and treatments used by physical therapists
4. theoretical application of therapeutic exercise programs and equipment commonly used for treatment of various orthopedic conditions and surgical procedures, and
5. Orthopedic pediatric treatment routines.

PTA 220 CLINICAL EXPERIENCE II (S)
Credits: 3 180 Clinical Hours / 4 weeks in length

The students will continue to build on their clinical experiences from PTA 210 and previous PTA course work. This will consist of a four-week clinical rotation at an approved site.

PTA 225 PHYSICAL THERAPIST ASSISTING SEMINAR (SU)
Credits: 3 45 Lecture Hours

This concentrated course is designed to integrate skills and techniques from previous clinical experiences and from the course work presented throughout the PTA program. It focuses on presentation of comprehensive treatment plans utilizing all treatment skills and techniques learned during the previous semesters. The students will be expected to provide written reports including complete patient information and treatment plans and then present this information in the form of a case study/project. Research and current issues are discussed and presented. Students will be required to relate sociological, physical, and psychological aspects of illness and injury to their projects. A cumulative exam of the PTA curriculum, as well, as preparation for the state's licensure exam is covered in this course. Student questions and concerns are also addressed.

PTA 230 CLINICAL EXPERIENCE III (SU)
Credits: 5 300 Clinical Hours / 8 weeks in length

This is the third of three full-time affiliations/clinical experiences during which the student develops proficiency in physical therapy procedures, understanding of clinical responsibilities and supervisory relationships with a minimum competence necessary to graduate as an entry level physical therapist assistant and become an active participant of the health care team. This course will include an eight-week clinical rotation at an approved site.

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PROGRAM COSTS

(Reflects additional program cost information after the 2008-2009 Catalog went into print)

ASSOCIATE OF ARTS (refer to page 36 in the 2008-2009 Catalog)

Tuition and Fees.....	\$7498.40
Application Fee.....	30
Lab Fees.....	60
Books.....	750
Total.....	\$8338.40

ASSOCIATE OF SCIENCE (refer to page 37 in the 2008-2009 Catalog)

Tuition and Fees.....	\$7498.40
Application Fee.....	30
Lab Fees.....	60
Books.....	750
Total.....	\$8338.40

MUS CORE (refer to page 35 in the 2008-2009 Catalog)

Tuition and Fees.....	\$2999.36
Application Fee.....	30
Lab Fees.....	60
Books.....	750
Total.....	\$3389.36

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Respiratory Care

Associate of Applied Science Degree

Advisor: Leonard Bates

Updated RT Curriculum

Pre-Respiratory Courses and Skills

Background in basic science and math is essential to prepare applicants to succeed in the RT program. Prior to admission to the RT program students must have completed high school chemistry and demonstrate computer literacy. (Students without high school courses should consult the RT Program Director about the appropriate college coursework to meet this requirement.)

Prior to formal program acceptance, the applicant must successfully complete all of the program prerequisites with a minimum grade of "C-".

Prerequisite Courses

Course	No.	Title	Credits
BIO	213**	Anatomy & Physiology I/Lab	4†
ENGL	121**	Composition I	3†
MATH	161**	College Algebra w/ Science Applications	3†
COMM	135	Interpersonal Communication OR	
PSY	101	General Psychology OR	
PSY	109	Lifespan Development	3†
Subtotal			13

The courses below are to be taken in the order that they are listed. Admission into the RT program and completion of the previous semester are required.

Program Course Requirements after Formal Acceptance

A grade of "C-" or above must be earned in all required courses to continue in and graduate from the program. CPR is a prerequisite for entrance into the first clinical experience. Each student is required to sign a clinical contract defining their professional responsibilities and behavior and must complete two to four weeks of clinic outside of Great Falls during the summer semester.

Fall Semester

Course	No.	Title	Credits
BIO	214*	Anatomy & Physiology II/Lab	4†
RC	150	Respiratory Care	2†
RC	155	Respiratory Physiology	3†
RC	170	Resp Tech & Procedures I	5†
Subtotal			14

Spring Semester

Course	No.	Title	Credits
RC	140*	Resp Care Clinic I	4†
RC	171*	Resp Techn & Procedures II	5†
RC	180*	Ventilator Management	2†
RC	255*	Pulmonary Assessment	3†
Subtotal			14

Summer Semester

Course	No.	Title	Credits
RC	141*	Resp Care Clinic II	4†
RC	260*	Neonatal Respiratory Care	3†
Subtotal			7

Fall Semester

Course	No.	Title	Credits
EMS	145*	ACLS Preparation	1†
RC	240*	Resp Care Clinic III	5†
RC	245*	Resp Care Clinical Seminar I	1†
RC	250*	Hemodynamic Monitoring	3†
RC	275*	Pulmonary Disease	2†
Subtotal			12

Spring Semester

Course	No.	Title	Credits
AH	120	Intravenous Therapy	1†
EMS	146	Pediatric Advanced Life Support	1†
RC	241*	Resp Care Clinic IV	5†
RC	246*	Resp Care Clinical Seminar II	1†
RC	265*	Resp Care in Alternative Sites	1†
RC	273*	Pulmonary Function Testing	1†
RC	280*	Supervisory Management	2†
Subtotal			12

Total Program Credits - 72~

~ Many students need preliminary math, English, and biology courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedules.

† A grade of "C-" or above required for graduation

* Indicates prerequisites needed

** Placement in course(s) is determined by placement assessment

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SURGICAL TECHNOLOGY

ASSOCIATE OF APPLIED SCIENCE DEGREE

NATIONALLY RECOGNIZED AS "PAE ELITE TWENTY PROGRAM"

Advisor: Sandra I. Allen

What is a Surgical Technologist? Surgical Technologists, often referred to as "scrub nurse", "scrub tech" or "operating room tech", are integral members of the operating room team. Their role includes assisting the physician during surgery by preparing and handling instruments, equipment, supplies and medications.

Job opportunities: Surgical Technologists usually work within the operating room itself which may offer specialization in specific fields such as orthopedics, plastics, ENT, ophthalmic or cardiovascular. However technologists may qualify for work within various medical fields such as: dental assistants, veterinary assistants, procurement technicians and instrument processing technicians without much more education than on the job training. As medical technology advances, so do the opportunities for the working surgical technologist.

Curriculum: The curriculum is designed as hybrid courses of lab, classroom, online instruction and surgery clinicals to provide theoretical foundations of operating room techniques. The student will learn skills in a competency-based clinical lab and apply learned skills in the clinical facilities. Within the operating room, the student will observe, and then participate in a supervised position. The student will then be expected to advance to a high level of independence by their internship.

Students who enter the program are required to rotate through clinical sites. Some clinical rotations are outside of the Great Falls area. Transportation and housing costs are the responsibility of the student.

Upon completion of the Surgical Technology Program, students will be prepared to begin a career as a surgical technologist. Students are prepared to sit for the national examination to become a Certified Surgical Technologist (CST).

The Surgical Technology Program will meet or exceed Accreditation Review Committee on Education in Surgical Technology (ARC-ST) benchmark standards on student retention, CST exam results, graduate job placement, employer satisfaction, and graduate satisfaction.

Outcomes – Graduates are prepared to:

Work with surgeons, anesthesiologists, nurses, and other health professionals in providing direct or indirect patient care while demonstrating positive work ethic, professionalism and appropriate interpersonal skills in the surgical setting.

Practice professional, value directed actions based on didactic and clinical knowledge, ethical principles and legal standards as a member of the surgical team.

Organize surgical instrumentation, supplies, and equipment in an efficient manner while utilizing principles of aseptic technique for physical preparation and maintenance of the surgical environment.

Perform under pressure in stressful and emergency surgical situations.

Demonstrate understanding of biomedical sciences and technology as they apply to the patient focused events that occur in the operating room.

Application and Registration: The Surgical Technology Program has a limited number of students per year due to clinical space and various other factors. This requires the student to complete a conditional application one semester prior to the semester they plan to begin the program. Program begins only in the spring semester. Please call for an appointment to obtain this application from the Program Director.

For more detailed information please visit :
www.msugf.edu/Catalog/2008_2009/Programs/SurgTech.html

Program accreditation: This program is nationally accredited through CAAHEP, the Commission on Accreditation of Allied Health Education

Programs, 1361 Park Street, Clearwater, FL 33756, 727-210-2350, mail@caahep.org in collaboration with the Accreditation Review Committee on Education in Surgical Technology (ARC-ST).

Estimated Resident Program Cost:

Tuition and Fees	\$5999
Application Fee.....	30
Insurance.....	75
Books/Supplies.....	1850
TOTAL	\$8373

PREREQUISITE COURSES

<u>Course</u>	<u>No.</u>	<u>Title</u>	<u>Credits</u>	
<u>Grade</u>				
BIO	213**	Anatomy & Physiology I with lab	4+	_____
PSY	101	General Psychology	3+	_____
COMM	135	Interpersonal Communication	3+	_____
AH	185	Basic Medical Terminology	3+	_____
BIO	280*	Microbiology and Communicable Diseases	4+	_____
MATH	103**	Introductory Algebra OR higher	4+	_____
ENGL	119**	Introduction to College Writing OR		
ENGL	124**	Business and Professional Communication	3+	_____
		Subtotal	24	

PROGRAM COURSE REQUIREMENTS AFTER FORMAL ACCEPTANCE

The courses below are to be taken in the order that they are listed.

Admission into the Surgical Technology program is mandatory to qualify to take the courses below. Contact Program Director for application materials

A grade of "C-" or above must be achieved in all courses to advance and graduate from the program.

SPRING SEMESTER

<u>Course</u>	<u>No.</u>	<u>Title</u>	<u>Credits</u>	<u>Grade</u>
PHIL	238	Medical Ethics	3+	_____
BIO	214*	Anatomy & Physiology II with lab	4+	_____
SURG	101*	Introduction to Safe Patient Care	3+	_____
SURG	109*	Surgical Procedures Lab I	3+	_____
SURG	154*	Surgical Pharmacology	3+	_____
		Subtotal	16	

FALL SEMESTER

<u>Course</u>	<u>No.</u>	<u>Title</u>	<u>Credits</u>	<u>Grade</u>
SURG	202*	Operating Room Techniques	5+	_____
SURG	201*	Surgical Procedures I	4+	_____
SURG	110*	Surgical Procedures Lab II	3+	_____
SURG	192*	Clinical Experience I	4+	_____
		Subtotal	16	

SPRING SEMESTER

<u>Course</u>	<u>No.</u>	<u>Title</u>	<u>Credits</u>	<u>Grade</u>
SURG	205*	Surgical Procedures II	5+	_____
SURG	193*	Clinical Experience II	5+	_____
SURG	194*	Internship	5+	_____
		Subtotal	15	

TOTAL PROGRAM CREDITS – 71 ~

~ Many students need preliminary math, English, computer and biology courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and English placement before planning out their full program schedules.

Courses are no longer being taught online by UM-COT in Missoula, MT. The collaborative agreement is no longer in effect.

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SURGICAL TECHNOLOGY

Course Description Changes

SURG 101 INTRODUCTION TO SAFE PATIENT CARE

Credits: 3 (S)

Prerequisite: Formal acceptance into Surgical Technology Program

Co-requisites: SURG 109; Surgical Procedures Lab I

This course introduces the career field by discussing the history and development of surgical technology, surgical patients, standards of conduct, hospital administration and organization, communication and teamwork, the operating room environment, safety standards, and biomedical science as it relates to surgical technology. The course provides an orientation to the scrub and circulatory roles of the surgical technologist in the preoperative, intra-operative and postoperative periods. Entry level skills and theories are emphasized.

SURG 154 SURGICAL PHARMACOLOGY

Credits: 3 (S)

Prerequisite: Formal acceptance into Surgical Technology Program

Co-requisites: SURG 109; Surgical Procedures Lab I

This course will provide the student with general pharmacological information of medications commonly used in a surgical setting, what laws pertain to them, how medications are measured, the use, dosages, routes, actions, adverse reactions, how they are labeled, and other considerations of administration. This course is an on-line internet course. This course is to be taken concurrently with Surgical Procedures Lab I where the hands-on skills will be presented.

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