

## **MINUTES**

### **MONTANA SENATE 53rd LEGISLATURE - REGULAR SESSION**

#### **COMMITTEE ON FINANCE & CLAIMS**

**Call to Order:** By Chair Judy Jacobson, on February 9, 1993, at 12:00 noon.

#### **ROLL CALL**

##### **Members Present:**

Sen. Judy Jacobson, Chair (D)  
Sen. Eve Franklin, Vice Chair (D)  
Sen. Gary Aklestad (R)  
Sen. Tom Beck (R)  
Sen. Don Bianchi (D)  
Sen. Chris Christiaens (D)  
Sen. Gerry Devlin (R)  
Sen. Gary Forrester (D)  
Sen. Ethel Harding (R)  
Sen. Bob Hockett (D)  
Sen. Greg Jergeson (D)  
Sen. Tom Keating (R)  
Sen. J.D. Lynch (D)  
Sen. Dennis Nathe (R)  
Sen. Chuck Swysgood (R)  
Sen. Larry Tveit (R)  
Sen. Eleanor Vaughn (D)  
Sen. Cecil Weeding (D)

**Members Excused:** Senator Fritz, Senator Waterman

**Staff Present:** Terry Cohea, Legislative Fiscal Analyst  
Lynn Staley, Committee Secretary

**Please Note:** These are summary minutes. Testimony and discussion are paraphrased and condensed.

##### **Committee Business Summary:**

Hearing: SB 295, SB 301  
Executive Action: SB 295, SB 301

#### **HEARING ON SB 295**

##### **Opening Statement by Sponsor:**

Senator Dennis Nathe, Senate District 10, sponsor, stated SB 295 would require the Board of Regents to submit to the budget director annual contingency budgets based on possible reductions in general fund spending.

**Proponents' Testimony:**

Dave Lewis, Office of Budget and Program Planning, said Governor Racicot's budget amendments discussed the need for legislation dealing with higher education having contractual commitment policies requiring much more deliberate planning on the Regents' part if higher education is called on to participate in budget recisions. If there is a revenue shortfall, the Governor has the authority to go back to the agencies and require a spending reduction. He noted SB 295 could lay out a process that would help the Regents in setting up plans to deal with budget problems. If there was a process where the Regents could set up contingency plans and include contract language that would allow reductions or changes in those contracts with a mandated reduction in the budget, it would help mitigate the impact of having to make the reduction.

**Opponents' Testimony:**

Rod Sundsted, acting associate commissioner for fiscal affairs, Montana University System, said in his opinion SB 295 is unnecessary as 17-7-140 which is noted in the bill already has a procedure laid out where agencies have to comply with a reduction. If they are notified there is a reduction, they have to identify the reductions and the impact upon the agency and present those to the budget office and the fiscal analyst for review by the legislative finance committee. He said they are not exempt from those provisions, in fact, they can be required by the governor to make the same reductions as any other agency under 17-7-140. He said Section 1, (2)(a), for fiscal year 1995, the budget director would be notifying them on April 1st and he questioned why a 10 percent contingency budget would be prepared on April 1 when they are unaware of what their budget is for fiscal year 1995. He concluded that SB 295 will only make additional administrative work in the university system.

**Questions From Committee Members and Responses:**

Senator Hockett asked Mr. Lewis to respond to Mr. Sundsted's testimony.

Dave Lewis said the issue raised about length of time, if we looked at April 1994, we are asking them to develop plans that would allow them to reduce appropriations for the fiscal year 15 months in advance; that they take into consideration the possibility of a revenue shortfall when the contracts are negotiated in the coming fall. He noted the objection raised by Mr. Sundsted is a possibility. It may not be needed this time, but it could be in the following year when there is not a legislative session that planning may be needed for cutbacks if there is a revenue shortfall.

**Closing by Sponsor:**

Senator Nathe closed.

**HEARING ON SB 301****Opening Statement by Sponsor:**

Senator Tom Towe, Senate District 34, Billings, sponsor, stated SB 301 would prohibit the use of state funds to provide any remedial course work at Montana units of higher education for which no postsecondary credits are granted. He noted it would add money to administrative and program costs that we should not have to pay out of the general fund. He distributed to the committee catalogues from various college campuses in Montana (See Exhibit 1). He concluded these courses can be taught at adult basic education centers around Montana; they should not have to be taught at the universities or vocational technical centers and should be paid for fully by non-general fund sources.

**Proponents' Testimony:**

Jim Reno, Billings Adult Basic Education Program, stated his support of SB 301, noting there is duplication in the remedial education system in the state. Although there is not a tremendous amount of dollars involved, there is the luxury of going to more than one place for remedial study. He presented to the committee facts relative to able comp scores and able total scores. (Exhibit 2)

**Opponents' Testimony:**

John Hutchinson, Commissioner of Higher Education, stated while he understands Senator Towe's motivation for SB 301, it is important to know why we have these courses in higher education communities. He noted that higher education has changed significantly and is much more available to a broader spectrum of our society than before. There have been substantial efforts in attempting to increase the diversity of student bodies with far more people attending higher education. Entry level requirements to enter the average point in the work force by the end of this century will require thirteen and one-half years of education in order to reach the mid point, necessitating more students having exposure to postsecondary education. In their judgment since they have introduced the admission and college prep requirements to the university system over the last several years, there will be fewer traditional age students needing to have developmental education and who will need to have refresher courses. With more older students entering higher education, many will require those refresher courses. He noted also that many of the courses are used by students in order to have enough credits to obtain financial aid. The availability of developmental courses is not

something necessarily found only in Montana but in larger states as well. He concluded many good students could be lost to the higher education community if these courses are not available to them in the atmosphere and environment where they are located and with the type of students they must interact with on a day to day basis, and it is best to offer the courses in the community campus environment.

Mark Emmert, Provost at Montana State University, stated his opposition to SB 301 in that it would have a negative impact on Montana State University and their ability to serve Montana. All courses that would be considered remedial under SB 301 are in mathematics at MSU. He said they place a high value on mathematics education and have a high standard for mathematics performance. Mathematics courses they list as remedial in which no college credit is given are routinely offered for credit at institutions throughout the country and offered at the majority of Montana institutions for credit. As they try to maintain access to Montana state for Montana citizens, the student body includes a wide range of students bringing different mathematic skills to the institution. Many students have a great need for these "remedial mathematics courses". He noted these courses are essential for minority students, particularly Native American students whose exposure to advanced mathematics courses has been extremely limited because of social and educational opportunities. Also students covered under the Americans With Disabilities Act would be included in this area where remedial course work in mathematics is essential to success. He alluded to the importance of offering courses in mathematics to get students to the stage where they can take calculus at the college level and indicated that elimination of general fund support would have a dramatic impact on their ability to do so. He stated there is no revenue stream flowing in associated with these courses which means the courses would have to be taught on the side through continuing education, and students would have to pay for these courses in addition to any other tuition expenses they would have. The direct cost would be borne by the student, often those who are least able to pay for it. SB 301 would make MSU pay for the shortcomings of K-12 education and the national education problem in mathematics.

Robert Kindrick, Provost at the University of Montana, in noting his opposition stated that many students enrolled in remedial courses take a small course load and it is conceivable if the student were not allowed to count the course for financial aid that they would lose the wherewithal to stay in school. If courses were offered through continuing education there would be a different fee schedule as well as students being unable to count these credits for financial aid. He noted that non-traditional students at the University of Montana are a critical part of the curriculum, that 26 percent of the undergraduates are over 25 years of age and it is critical for them to be able to move smoothly back into academic life. Also the matter of cultural diversity is important at the University of Montana

where there are many Native American students. He concluded it would be a real disservice to the students of the state and the University of Montana if these courses were not supported through general funds.

Dawn Allen, a Montana State University student, stated many students including herself are above the traditional age and those students going back to college without classes like these would be lost. Without remedial courses many students would be unable to graduate.

Bonnie Craig, Director, University of Montana Native American Studies, said many students are single parents and non-traditional and come from different background. Many do not have the same educational experience based on solid high school college preparation program. Students are suffering from cultural interaction and are taught they cannot handle the courses, and they have to be reprogrammed. Remedial courses provide that opportunity for the university to get behind the student to retrain them.

#### Questions From Committee Members and Responses:

Senator Keating questioned if private schools in Montana offer remedial courses. It was indicated to Senator Keating that Carroll College and the College of Great Falls offer remedial courses.

Senator Weeding asked Senator Towe where adult education students in small cities would get the remedial classes.

Senator Towe said they would probably go to a larger city where there are adult education classes offered. He indicated he had no objection to the university system teaching remedial classes in math, reading or writing, but he felt they should pay for those classes. It is not something that should be funded by the state.

Senator Jacobson stated her opinion that an algebra class taught in adult basic education prepares students to take their GED. She said what she needed in her particular case was a refresher course to prepare for college algebra which was a course that packed about four years of high school into one semester. In her opinion that is not the same kind of course available at a GED class in adult basic education.

Senator Towe said he would like to have Jim Reno comment on that.

Jim Reno said the state law of funding and authorizing adult basic education states that those type of courses can be offered that are normally associated with high school. You can go through the first year of algebra at any basic education site in

Montana. Relative to a community that does not currently have an adult basic education program, they could have a program; there is local funding authority of up to two mills for that purpose.

Senator Jacobson said the question is does the course that is taught prepare the student for a college level algebra course, which she noted her opinion it probably does not.

Senator Lynch said 90 percent of his students want to pass the math part of a GED test, in which they have to obtain the minimum of 35 or an overall 45 on all tests. In his opinion the two most difficult parts of the test are math and english. He stated that he would not classify the classes he teaches as college preparatory. It is trying to get them to pass the GED test, to obtain about a ninth grade level.

Senator Franklin said in her opinion the mission of the basic education program is to get through high school and some basic life skills. The mission of the university is a different event and it would be unfortunate to tie the hands of a university based program.

Senator Christiaens questioned if Pell grants and Stafford loans are available to students taking remedial classes.

Bob Kindrick of the University of Montana said the courses do count for federal financial aid.

**Closing by Sponsor:**

Senator Towe closed. He said there is a genuine role for remedial courses in college and SB 301 does not dispute that. SB 301 states the courses should not be paid for by general fund money.

**EXECUTIVE ACTION ON SB 301**

**Motion/Vote:** Senator Lynch moved that SB 301 DO NOT PASS. Motion CARRIED with Senators Christiaens, Devlin, Forrester and Hockett opposed.

**EXECUTIVE ACTION ON SB 295**

**Motion/Vote:** Senator Nathe moved that SB 295 DO PASS. Motion FAILED on a roll call vote (See attached roll call vote).


SENATE FINANCE & CLAIMS COMMITTEE

February 9, 1993

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ADJOURNMENT

Adjournment: 1:05 p.m.

  
\_\_\_\_\_  
JUDY JACOBSON, Chair

  
\_\_\_\_\_  
LYNN STALEY, Secretary

JJ/LS

# ROLL CALL

SENATE COMMITTEE FINANCE AND CLAIMS

DATE 2/9/93

NAME	PRESENT	ABSENT	EXCUSED
SENATOR JACOBSON	✓		
SENATOR FRANKLIN	✓		
SENATOR AKLESTAD	✓		
SENATOR BECK	✓		
SENATOR BIANCHI	✓		
SENATOR CHRISTIAENS	✓		
SENATOR DEVLIN	✓		
SENATOR FORRESTER	✓		
SENATOR FRITZ			✓
SENATOR HARDING	✓		
SENATOR HOCKETT	✓		
SENATOR JERGESON	✓		
SENATOR KEATING	✓		
SENATOR LYNCH	✓		
SENATOR NATHE	✓		
SENATOR SWYSGOOD	✓		
SENATOR TVEIT	✓		
SENATOR VAUGHN	✓		
SENATOR WATERMAN			✓
SENATOR WEEDING	✓		

FC8

Attach to each day's minutes



ADVERSE

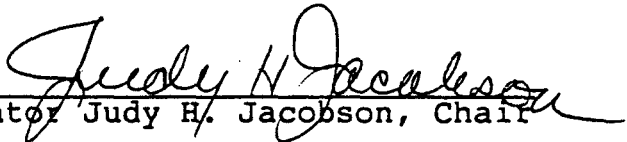
SENATE STANDING COMMITTEE REPORT

Page 1 of 1  
February 9, 1993

MR. PRESIDENT:

We, your committee on Finance and Claims having had under consideration Senate Bill No. 295 (first reading copy -- white), respectfully report that Senate Bill No. 295 do not pass.

Signed:

  
Senator Judy H. Jacobson, Chair

ADVERSE

SENATE STANDING COMMITTEE REPORT

Page 1 of 1  
February 9, 1993

MR. PRESIDENT:

We, your committee on Finance and Claims having had under consideration Senate Bill No. 301 (first reading copy -- white), respectfully report that Senate Bill No. 301 do not pass.

Signed: \_\_\_\_\_

*Judy H. Jacobson*  
Senator Judy H. Jacobson, Chair

# ROLL CALL VOTE

SENATE COMMITTEE FINANCE AND CLAIMS

BILL NO. 295 *SB*

DATE 2/9/93 TIME 1:00 A.M. P.M.

NAME	YES	NO
SENATOR JACOBSON		✓
SENATOR JERGESON		✓
SENATOR AKLESTAD		✓
SENATOR BECK	✓	
SENATOR BIANCHI		✓
SENATOR CHRISTIAENS		✓
SENATOR DEVLIN	✓	
SENATOR FORRESTER		✓
SENATOR FRANKLIN		✓
SENATOR FRITZ <i>excused</i>		
SENATOR HARDING <i>excused</i>		
SENATOR HOCKETT	✓	
SENATOR KEATING		✓
SENATOR LYNCH	✓	
SENATOR NATHE	✓	
SENATOR SWYSGOOD	✓	
SENATOR TVEIT	✓	
SENATOR VAUGHN		✓
SENATOR WATERMAN <i>excused</i>		
SENATOR WEEDING		✓

*Lynn Staley*  
SECRETARY

*Senate Bill 295* CHAIR

MOTION: As per motion of Senator Nathe. Motion failed.

# ROLL CALL VOTE

SENATE COMMITTEE FINANCE AND CLAIMS

BILL NO. SB 295

DATE 2/9/93

TIME 1:03

A.M. P.M.

NAME	YES	NO
SENATOR JACOBSON	✓	
SENATOR JERGESON	✓	
SENATOR AKLESTAD	✓	
SENATOR BECK		✓
SENATOR BIANCHI	✓	
SENATOR CHRISTIAENS	✓	
SENATOR DEVLIN		✓
SENATOR FORRESTER	✓	
SENATOR FRANKLIN	✓	
SENATOR FRITZ <i>excused</i>		
SENATOR HARDING <i>excused</i>		
SENATOR HOCKETT		✓
SENATOR KEATING	✓	
SENATOR LYNCH		✓
SENATOR NATHE		✓
SENATOR SWYSGOOD		✓
SENATOR TVEIT		✓
SENATOR VAUGHN	✓	
SENATOR WATERMAN <i>excused</i>		
SENATOR WEEDING	✓	

Lynn Staley  
SECRETARY

CHAIR

MOTION: Do Not Pass (reversal of Do Pass

*Motion that failed on a roll call vote)*

SENATE FINANCE AND CLAIMS

EXHIBIT NO. 1

DATE 2/9/93

BILL NO. SB 301

# **NORTHERN MONTANA COLLEGE CATALOG**



1988-1990



**HPE 376 (D) Tests and Measurements in Health and Physical Education.  
3 credits**

Administration, analysis, interpretation, and evaluation of tests in health and physical education.

**HPE 378 (D) Sex Education.  
3 credits**

A study of the biological and behavioral values as it concerns human sexuality.

**HPE 386/586 (D) Drug and Alcohol Education.  
3 credits**

Introductory information for prospective teachers on the nature and effects of drug and alcohol abuse, social and personal needs of users, rehabilitation techniques, and legal regulations of drug possession and use.

**HPE 394 (D) Outdoor Education.  
3 credits**

Introduction to the concept of outdoor education and its relationship to physical education; includes basic outdoor skills.

**HPE 404 (D) Practicum in Physical Education.  
1 credit**

An opportunity for all physical education majors to participate in discussions concerning current problems facing the physical education profession.

**HPE 407 (D) Issues in Competitive Athletics.  
3 credits**

A study of individual administrative, supervisory, and organizational problems directly related to athletics as they affect the coach or athletic director.

**HPE 423 (D) Marriage and Family Relationships.  
3 credits**

An in-depth study and discussion of courtship, love, marriage, problem solving, and family relationships. Human relations and values clarification are emphasized through the group process.

**HPE 448 (D) Psychology and Sociology in Sports.  
3 credits**

A study of psychological and sociological implications of sports participation.

## HUMANITIES (HUM)

**HUM 201 Introduction to the Humanities  
3 credits**

A survey of the humanistic disciplines: literature, philosophy, music, art, and theatre. The course is designed to help the student identify those qualities that make each discipline unique and discover commonalities among these disciplines. Guest writers, thinkers, and artists will augment the instruction. Students will be encouraged to undertake activities and attend events (art shows, presentations, performances) related to ideas discussed in class.

**HUM 401 Humanities Seminar  
3 credits**

A seminar in which students investigate how forms of philosophical, literary, and artistic expression both reflect and shape the society from which they spring. Subject matter will be drawn from intellectual and artistic responses to a particular societal issue or problem. Guest writers, thinkers, and artists will augment the instruction. Prerequisite: HUM 201.

## MATHEMATICS (MATH)

**MATH 096 Basic Math I.  
3 credits**

A basic math course that covers the following arithmetic concepts: whole numbers, math and factors, fractions, decimals, ratios and proportions, and percent. This course will not meet program credit requirements nor general education requirements.

**MATH 097 Basic Math II.  
3 credits**

This course continues basic skill development from Math 096 to include exponents, square roots and scientific notation. Other topics include some descriptive statistics with graph and chart interpretation, signed numbers and inequalities. This course will not meet program requirements nor general education requirements.

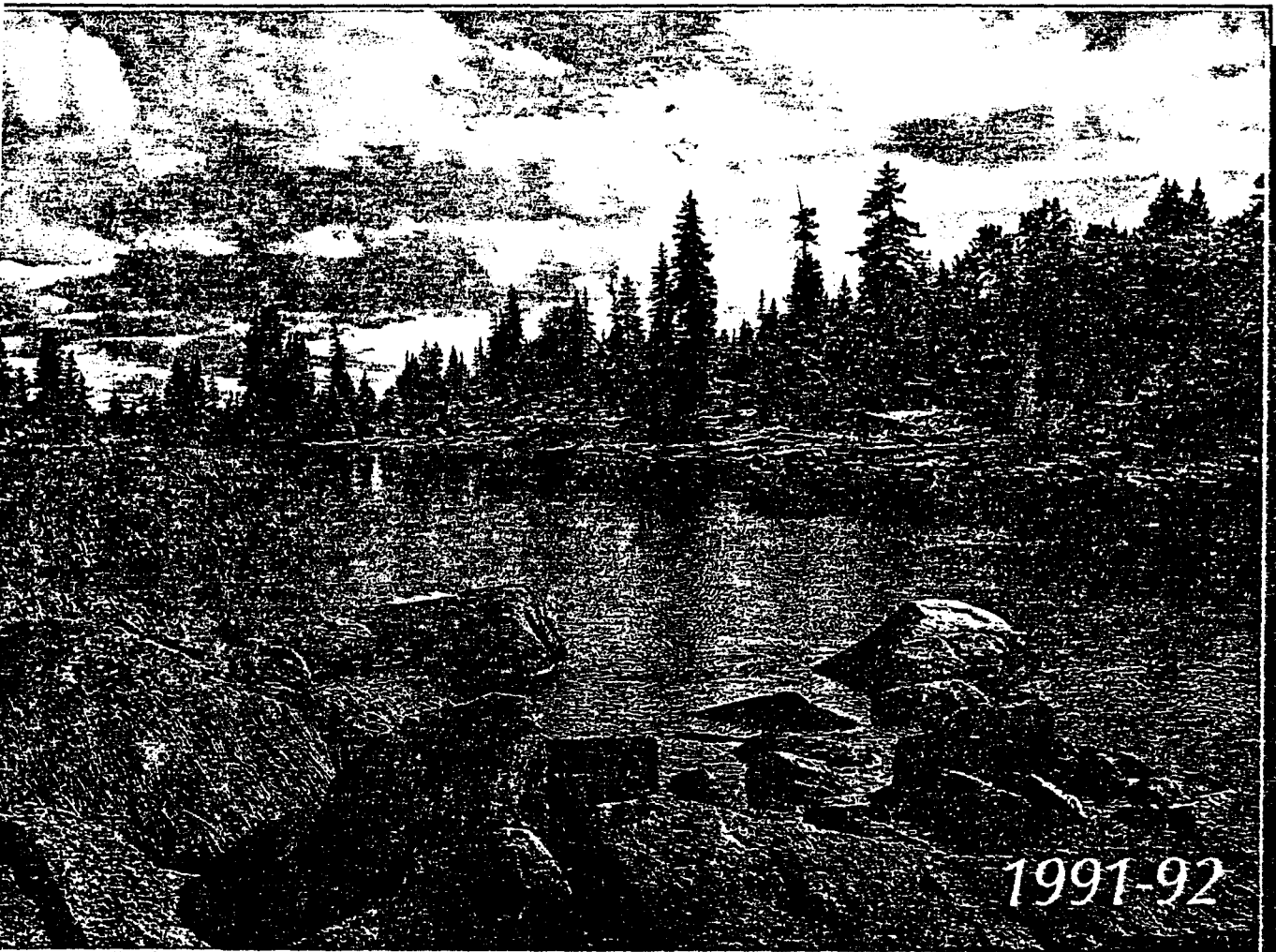
**MATH 098 Basic Algebra.  
3 credits**

A course in elementary algebra to follow Math 097. Topics to be covered include two letter equations and inequalities, solutions to systems of equations and linear equations in one letter, algebraic fractions and the solution of quadratic equations by factoring. This course will not meet program requirements nor general education requirements.

VOCATIONAL

TECHNICAL

CENTER



BILLINGS, MONTANA

## ***Related Instruction (RI)***

Unit not post second  
level instruction.

### **RI 101 FUNDAMENTALS OF MATHEMATICS CREDIT: 3**

This course teaches technical math and covers fundamental mathematical concepts, whole numbers, fractions, decimals, percents, ratios, proportions, and metrics. It will also feature an emphasis on the practical use of the hand-held calculator.

### **RI 102 PRINCIPLES OF COMMUNICATIONS CREDIT: 3**

Designed to teach students the fundamentals of the English language, this course includes grammar, spelling, punctuation, and word usage, with emphasis on both written and oral communications.

### **RI 103 EMPLOYMENT RELATIONS CREDIT: 2**

This course is designed to help the students better understand themselves and others so that they will become more effective employees in the world of work. Included are such topics as coping with stress and conflict, decision-making, and problem-solving.

### **RI 104 JOB PREPARATION CREDIT: 2**

The student is instructed in the skills needed to obtain employment such as resume writing, interviewing, and completion of job applications.

### **RI 105 INTRODUCTORY MICROCOMPUTER APPLICATIONS CREDIT: 3**

Students are introduced to the terminology, nomenclature, and general operation and use of microcomputers. Fundamental concepts of word processing, electronic spreadsheets, and data management systems are taught with hands-on experience provided through the use of introductory software in applications.

### **RI 106 FIRST AID AND CPR CREDIT: 2**

This course covers the basics of emergency and life-saving procedures through first aid and CPR training.

### **RI 107 OCCUPATIONAL SAFETY/HAZARDOUS WASTE CREDIT: 2**

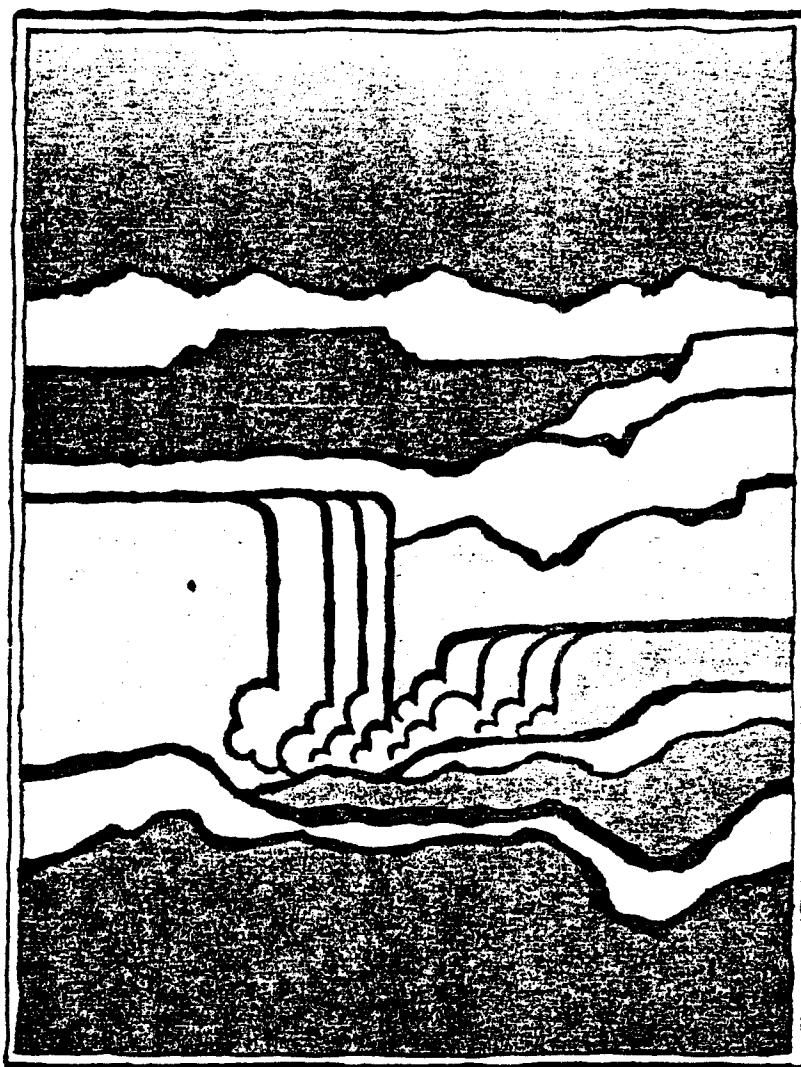
This course covers basic safety in the workplace concerning possible hazards and necessary precautions. Proper handling and disposal of hazardous waste materials will also be presented.

### **RI 108 SMALL BUSINESS -- GETTING STARTED CREDIT: 2**

This course is designed to give the student insight into the development and operation of a small business, i.e., a business plan, financing, market analysis, basic management skills, recordkeeping.



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C A T A L O G

Great Falls  
Vocational-Technical  
C · E · N · T · E · R

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Great Falls, Montana

## ADVISOR

Students will be assigned a faculty advisor when they enroll. Advisors will assist in scheduling each term and be available to provide information regarding courses as needed.

## JOB PLACEMENT AND FOLLOW UP

Job placement assistance is available to all students and graduates. Information is provided regarding current job openings and trends, as well as job-finding techniques. Placement is a team effort involving the program instructors, the placement office, and the student.

Graduates will be contacted periodically after they leave school regarding employment. This enables the school to keep informed about placement opportunities and salaries.

## LEARNING LABS

The Learning Labs offer individualized learning opportunities for students who need and/or want to improve their reading, language, math or study skills.

Learning Labs are available or can be constructed for any area of academic need a particular student may have. The Labs, located in Rooms 222/224, are operated on an open-entry/open-exit basis. Grading of lab students is on a pass/progress limited/fail basis.

Learning Labs are equipped with a wide range of media and materials. Some studies call for inexpensive learning materials available through the student bookstore.

Please refer to the General Education section for course descriptions.

## PALS LAB

The PALS (Principle of the Alphabet Literacy System) is a revolutionary computer-assisted reading program designed for adolescents and adults with a reading ability below sixth grade. This system utilizes self-paced instruction, develops typing and computer skills, and works where other systems have failed. This lab is offered at no tuition cost for those individuals who have been identified as reading below the sixth grade level.

*but are these student included in the school's head count for state funding?*

## MEDIA CENTER

The Media Center, located across from the Main Office, is open from 7:30 a.m. to 4:30 p.m. Monday through Friday. It is a relaxing place for students to study. The latest audio-visual materials and equipment are available for student, staff, and faculty use.

## SNACK BAR AND CAFETERIA

The Center has facilities, located in the Student Commons area, for serving breakfast and lunch to students. It also has a snack bar where sandwiches, soft drinks, and coffee can be obtained.

## STUDENT BOOKSTORE

The Bookstore operates as a service to students and carries an inventory of required textbooks and class supplies. It also offers snack items, postage stamps, bus passes, and a check-cashing service. The Bookstore is open daytime, Monday through Friday.

**EMT 218 EMERGENCY MEDICAL TECHNICIAN-  
INTERMEDIATE**

**M 218**

Credits: 4

This course is designed as the second phase of emergency medical technology, to provide student training in life support including intravenous therapy, cardiac defibrillation, advanced airway management and general pharmacology.

**EMT 219 EMERGENCY MEDICAL TECHNICIAN--  
DEFIBRILLATION**

**M 219**

Credits: 1

The EMT-D course is designed to prepare the EMT to operate an EKG monitor, apply electrodes to the patient's chest, apply EKG monitor cables and identify supra ventricular and ventricular fibrillation rhythms.

**GE 020 STUDY SKILLS LAB**

**R 020**

Credits: 2

Pass/Fail Basis

This individualized course is designed to improve ability to gather information through media and instruction and to use that information through testing or performance. The key to good study skills--a positive attitude and knowledge of procedure--is promoted.

**GE 030 LEARNING LAB**

**R 030**

Credits: 2

Pass/Fail Basis

Individualized learning opportunities on an open-entry/open-exit basis are available, or will be constructed, for any academic need a particular student may have. This may include preparation and/or support for other classes.

**GE 040 ENGLISH LAB**

**R 040**

Credits: 2

Pass/Fail Basis

As an individualized approach to the understanding and use of basic elements necessary to the appropriate structuring of sentences and paragraphs, this course includes capitalization, punctuation, and parts of speech.

**GE 045 VOCABULARY LAB**

**R 045**

Credits: 2

Pass/Fail Basis

An individualized program to expand vocabulary knowledge and usage through the study of roots and affixes and/or specific vocationally relevant word lists is provided.

**GE 050 SPELLING LAB**

**R 050**

Credits: 2

Pass/Fail Basis

This individualized approach to handling spelling difficulties introduces specific techniques for spelling by visual memory, phonics, guidelines, or a combination of the three.

**GE 055 READING LAB**

**R 055**

Credits: 2

Pass/Fail Basis

A plan for improvement of reading skills is prescribed on an individual basis. Areas of study may include methods, word recognition, phonics, vocabulary, comprehension, and speed.

**GE 060 MATH LAB**

**R 060**

Credits: 2

Pass/Fail Basis

Basic concepts relating to measurement, fractions, decimals, percent, and formula usage are offered as brush-up and/or preparation for the mathematic needs in business math or other course studies. Help with ongoing coursework is available as needed.

**GE 101 MASTER STUDENT**

**R 101**

Credits: 1

Pass/Fail Basis

This is an innovative, exciting course designed to help students develop the knowledge and skills needed to learn effectively. Strategies taught are identifying personal strengths to be successful in school and on the job; learning to believe in oneself; improving one's academic performance with note taking, text reading, and test taking; handling stress; knowing how to manage time; and establishing relationships with others.

**GE 105 BUSINESS MATH 1**

**R 105**

Credits: 2

This course is designed to permit students to progress at their own pace. It reviews the basic math functions of addition, subtraction, multiplication, and division. The course also involves the use of business formulas, ratios, percents, estimates, and reconciliation of bank statements.

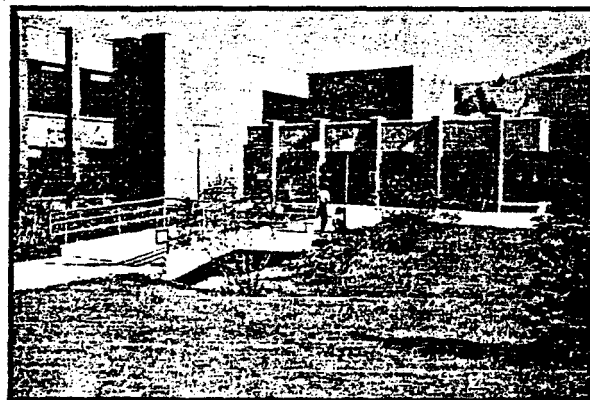
# Montana Tech



1988-1989  
Catalog



Butte, Montana  
59701



## 154 Course Descriptions/Mathematics

### I.H. 562 Radiological Health and Safety

2 Cr. (Hrs.:2 Lec.)

Covers the concepts of radioactive decay, measurement and radiation protection and demonstrates radiation sampling procedures and equipment. Control techniques including ventilation and respirators are also covered. Regulations governing exposures, record-keeping, monitoring, etc. are emphasized. **Prerequisite:** OSH 412. (2nd)

### I.H. 567 Respiratory Protection

2 Cr. (Hrs.:2 Lec.)

Presents the concepts essential to developing and implementing an acceptable respiratory protection program as an aspect of a comprehensive Industrial Hygiene program. Selection, operation, training, fitting and inspection of respirators are taught as well as record-keeping requirements specific to respiratory protection. **Prerequisite:** OSH 411. (2nd)

### I.H. 570 Special Problems

Variable Credit

An individual laboratory, field, library or research problem is assigned requiring written and oral reports of the student's work. **Prerequisite:** Consent of the instructor. (1st, 2nd)

### I.H. 590 Industrial Hygiene Research and Thesis

Variable Credit

Students pursue original research on an advisor-approved topic. Credit is awarded upon satisfactory completion of a thesis. (Summer)

### I.H. 591 Industrial Hygiene Research and Thesis

Variable Credit

A continuation of I.H. 590. (1st)

### I.H. 592 Industrial Hygiene Research and Thesis

Variable Credit

A continuation of I.H. 591. (2nd)

## MATHEMATICS

### MATH 007 Intermediate Algebra

3 Cr. (Hrs.:3 Lec.)

Reviews the material commonly taught in the first three semesters of high school algebra. Intended for students whose mathematical preparation in high school was not adequate. Credit in this course does not count toward a degree at Montana College of Mineral Science and Technology. **Prerequisite:** Two semesters of high school algebra. (1st, 2nd)

### MATH 008 College Geometry

2 Cr. (Hrs.:2 Lec.)

Considers geometry as an indispensable tool in science and engineering, and not as a medium for teaching deductive reasoning. Properties of lines, quadrilaterals and circles are studied to gain understanding. Formulas on surfaces and volumes of prisms,

cylinders, cones and spheres are proved informally to convey geometrical insight. **Prerequisite:** At least two years of high school algebra, or Math 007 or consent of the instructor. (1st, 2nd)

### MATH 105 College Algebra

3 Cr. (Hrs.:3 Lec.)

Covers standard topics of college algebra including linear and quadratic functions, polynomial and rational functions, exponential and logarithmic functions, complex numbers, and binomial theorem. **Prerequisite:** At least two years of high school algebra or consent of the instructor. (1st, 2nd)

### MATH 106 College Trigonometry

3 Cr. (Hrs.:3 Lec.)

Contains the standard material on plane trigonometry, including trigonometric functions, identities, addition theorems, inverse functions and solutions of trigonometric equations, laws of sines and cosines, complex numbers in polar form, and DeMoivre's Theorem. **Prerequisite:** At least two years of high school algebra and one year of geometry, or Math 008 and 105. (1st, 2nd)

### MATH 117 Mathematics for Business and Social Sciences

3 Cr. (Hrs.:3 Lec.)

A comprehensive treatment of selected topics from Finite Mathematics, Linear Algebra, Matrix Algebra and Linear Programming. Applications from the areas of Business and Management Sciences will be emphasized.

### MATH 118 Mathematics for Business and Social Sciences (contd.)

3 Cr. (Hrs.:3 Lec.)

Continuation of Math 117. Emphasizes Probability and Probability Models for Business.

### MATH 121 Analytic Geometry and Calculus

5 Cr. (Hrs.:5 Lec.)

Covers functions, limits, derivatives, integrals, techniques of integration, exponential, logarithmic and hyperbolic functions. **Prerequisite:** Math 105 and Math 106 or their equivalent. (1st, 2nd)

### MATH 122 Analytic Geometry and Calculus

5 Cr. (Hrs.:5 Lec.)

Covers polar coordinates, conic sections, three-dimensional vectors, partial differentiation and multiple integrals. **Prerequisite:** Math 121. (1st, 2nd)

### MATH 131 Introduction to Set Theory

3 Cr. (Hrs.:3 Lec.)

Covers logic, theory of sets, and Boolean Algebra with applications to circuits. **Prerequisite:** Math 105 or equivalent. (1st)

### Math 132 Elementary Statistics and Probability

3 Cr. (Hrs.:3 Lec.)

A study of basic concepts of probability, estimation and

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# Prevocational Studies

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The Prevocational Studies program is designed to be taken prior to specific program entry. This course work is recommended for students who may be lacking necessary academic skills, who are returning to school after a long absence, who need to brush up their academic and study skills, or who want an assessment of probable academic success at the postsecondary level.

LENGTH OF PROGRAM:

5 weeks

ENTRY TIMES:

July 6, 1992

November 9, 1992

March 31, 1993

APPROXIMATE TOTAL PROGRAM COSTS:

\$305 Includes tuition and fees, books, and personal supplies.

				Credit
ASC	055	Prevocational Reading		1
MAT	101	Basic Math		1
ASC	060	Prevocational Study Skills		1
ASC	080	Prevocational Counseling		1
Total				4

Prerequisite(s): LEG 180

An introduction to Montana real estate law and to common real estate transactions in the law office emphasizing procedural aspects of financing methods, and document preparation for a typical transfer of real estate.

### **LEG 279 LEGAL RESEARCH AND WRITING II**

Credits: 1

Prerequisite(s): LEG 197

Legal research, analysis, and document drafting using form books and sources of law; shepardizing; and law library maintenance.

### **LEG 280 LEGAL RESEARCH AND WRITING III**

Credits: 1

Prerequisite(s): LEG 279

Advanced legal research and writing including use of computer search tools and devices.

### **LEG 283 TRIAL PREPARATION**

Credits: 3

Prerequisite(s): LEG 190

Collecting and preserving evidence, locating witnesses, jury selection, trial notebook development, post-trial assistance, and investigative techniques.

### **LEG 285 FAMILY LAW**

Credits: 1

Prerequisite(s): LEG 180

Introduction to legal assisting and secretarial tasks and duties in cases of dissolution of marriage, adoption, and guardianship with emphasis on document preparation.

### **LEG 286 ADVANCED FAMILY LAW**

Credits: 1

Prerequisite(s): LEG 285

Detailed analysis of family and domestic issues under Montana law, including: common law marriage, declaration of invalidity (annulment), joint and sole custody arrangements, modification of custody and support, Uniform Reciprocal Enforcement of Support Act (URESA), grandparental visitation, child abuse and neglect, and adoption.

### **LEG 287 COLLECTIONS AND BANKRUPTCY**

Credits: 1

Prerequisite(s): LEG 180

Basic procedures in debt collection and bankruptcy law practice. Includes study of small claims court, execution, garnishment, attachment, and bankruptcy documents.

### **LEG 288 ESTATES AND PROBATE**

Credits: 1

Prerequisite(s): LEG 180

Study of legal secretarial and legal assisting duties relating to wills, estates, and Montana probate proceedings with emphasis on document preparation.

### **LEG 294 CORPORATIONS AND PARTNERSHIPS**

Credits: 1

Prerequisite(s): LEG 180

Legal procedures in Montana corporations, partnerships, business entities, and contracts with emphasis on document preparation.

### **LEG 298 LEGAL ASSISTING INTERNSHIP**

Credits: 2

Prerequisite(s): Consent of instructor

On-the-job experience as a legal assistant trainee under the supervision of an employer, attorney, or court official. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 6 hours each week at an approved site and attend a weekly one-hour seminar.

### **MAT 101 BASIC MATH**

Credits: 1

Prerequisite(s): None

Introduction and review of mathematical concepts needed for successful completion of specialized math courses with specific programs. Topics include fractions, decimals, percents, ratios, proportions, and measurement.

### **MAT 102 BASIC ALGEBRA**

Credits: 1

Prerequisite(s): MAT 101

Continuation of MAT 101. Topics include basic algebraic and geometric concepts. Completion of MAT 101 and MAT 102 is the equivalent of MAT 103.

### **MAT 103 MATH FUNDAMENTALS**

Credits: 2

Prerequisite(s): None

Introduction and review of mathematical concepts necessary for success in specific occupational fields. Topics include fractions, decimals, percents, ratios, proportion, and basic algebraic and geometric concepts. Other concepts will be included according to specific program need.

### **MAT 104 INDUSTRIAL MATH**

Credits: 2

Prerequisite(s): None

Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered in-

clude fractions, decimals, percent, ratio, proportion, and measurement. Other specialized topics will be covered according to specific program need.

### **MAT 105 BUSINESS MATH APPLICATIONS**

Credits: 2

Prerequisite(s): Completion of or concurrent enrollment in MAT 103

Study and practice of electronic printing and display calculators and their applications to business mathematics. Basic machine operations including the touch method, purchasing and pricing merchandise, taxes, insurance, simple and compound interest, bank records, and credit are included.

### **MAT 107 ELECTRONICS MATH I**

Credits: 4

Prerequisite(s): None

An integrated treatment of mathematical topics on algebra and trigonometry found necessary for a sound mathematical background for the technician. Numerous applications for the technical fields have been included to indicate how and where mathematical techniques are used.

### **MAT 108 ELECTRONICS MATH II**

Credits: 4

Prerequisite(s): MAT 107

A continuation of MAT 107. An integrated treatment of mathematical topics in algebra, trigonometry, analytic geometry, differentiation, and elementary transcendental functions. Numerous applications for the technical fields have been included to indicate how and where mathematical techniques are used.

### **MAT 122 MATH FOR NURSING**

Credits: 3

Prerequisite(s): None

A review of fractions, decimals, ratios, and proportions followed by a study of apothecary, household, and metric conversion factors and application of these in accurately solving dosage problems enabling safe administration of oral medicines and injectable drugs.

### **MAT 133 MERCHANDISING MATH**

Credits: 2

Prerequisite(s): None

Use of mathematical concepts in retailing. Specific application of these concepts to markups/markdowns, inventory turnover, and other basic formulas.

### **MAT 153 FOOD PRODUCTION MATH**

Credits: 2



**ACC 127 SECRETARIAL ACCOUNTING**

Credits: 3

Prerequisite(s): None

An introduction to double-entry accounting with an emphasis on service businesses. Contains entry analysis, journalizing, posting, trial balance, worksheet, financial statements, and closing procedures. A practice set provides practical experience.

**ACC 128 ACCOUNTING FOR THE LAW OFFICE**

Credits: 3

Prerequisite(s): None

An introduction to double-entry accounting and exposure to entry analysis, journalizing, posting, trial balance, worksheet, financial statements, and closing procedures. A legal practice set will provide experience related to the law office.

**ACC 130 PRINCIPLES OF ACCOUNTING**

Credits: 3

Prerequisite(s): None

Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems and cash control. Course also includes the essential concepts of payroll.

**ACC 132 ACCOUNTING I**

Credits: 4

Prerequisite(s): None

Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements and adjusting/closing procedures, accounting systems and cash control. Includes the essential concepts of payroll records and the laws governing payroll.

**ACC 133 ACCOUNTING II**

Credits: 4

Prerequisite(s): ACC 132

Expansion of ACC 132 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in stocks and bonds, and the statement of cash flows.

**ACC 230 COMPUTER ACCOUNTING SYSTEM**

Credits: 3

Prerequisite(s): ACC 133

Hands-on experience using the IBM Personal/2 microcomputer for accounting applications. Areas covered include

general ledger, accounts receivable, and accounts payable.

**ACC 232 NONPROFIT ACCOUNTING**

Credits: 3

Prerequisite(s): ACC 133

Principles of accounting for governmental units, health care organizations, colleges and universities, and other nonprofit organizations.

**ACC 234 ACCOUNTING III**

Credits: 4

Prerequisite(s): ACC 133

Conclusion of basic accounting sequence including concepts and principles, financial statement analysis, and managerial accounting.

**ACC 235 COST ACCOUNTING**

Credits: 3

Prerequisite(s): ACC 133

Accounting for materials, labor, and factory overhead using the job order and process costing systems.

**ACC 236 INCOME TAX**

Credits: 3

Prerequisite(s): ACC 133

An introduction to taxation terminology, basic tax preparation for individuals, and tax implications for individuals, partnerships, and corporations.

**ACC 237 ACCOUNTING TOPICS**

Credits: 3

Prerequisite(s): ACC 133

Introduction to Montana's State Budgeting and Accounting System and expansion in specific areas including payroll, reconciliations, information systems, and audit trails.

**ACC 238 ACCOUNTING INTERNSHIP**

Credits: 2

Prerequisite(s): Consent of instructor

On-the-job training in the community in positions related to the accounting field. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of 6 hours each week at an approved site and attend a weekly one-hour seminar.

**ASC 050 BASIC GRAMMAR**

Credits: 1

Prerequisite(s): None

Review of the language principles, rules and conventions including grammar, mechanics, syntax, sentence structure, paragraph development, and spelling.

**ASC 053 PREVOCATIONAL READING**

Credits: 1

Prerequisite(s): None

Measures and upgrades reading skills to the minimum level that is required by specific program options. Reading activities are directly related to materials the student will use in course work and practical work experience.

**ASC 056 STUDY AND SPEED-READING**

Credits: 1

Prerequisite(s): None

Measurement and upgrading of reading skills for improved text and assignment reading. Reading rate, comprehension, and study techniques will be practiced to enhance reading ability.

**ASC 060 PREVOCATIONAL STUDY SKILLS**

Credits: 1

Prerequisite(s): None

Development of skills needed for successful study. Course includes an overview of study management, study reading, note-taking skills, listening skills, memory utilization, and test-taking techniques.

**ASC 061 STUDY SKILLS**

Credits: 1

Prerequisite(s): None

Provides practical skills in listening, memorizing, reading, note taking, and test taking for individuals (current students, future students, or upward moving employees) who wish to learn more efficiently.

**ASC 080 PREVOCATIONAL COUNSELING**

Credits: 1

Prerequisite(s): None

Individual and group counseling sessions dealing with school related problems and the firming of realistic occupational goals. Attitudes, aptitudes, interests, values, and alternatives to existing career goals will be explored. Student achievement in other prevocational courses is reviewed and discussed weekly to give the student a measure of his/her individual progress.

**BME 120 ELECTRICITY I**

Credits: 3

Prerequisite(s): None

The electrical laws and principles pertaining the DC and AC circuits. Includes current, voltage, resistance, power, inductance, capacitance, and transformers. Introduction to wiring methods and materials in conformance with the National Electric Code (NEC). Includes in-

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**IA 460 GENERAL SAFETY AND ACCIDENT PREVENTION (3)**

Concern with the study of accident-prevention programs and the development of positive attitudes toward safety in or out of the school environment. (summer - even years)

**IA 473 ADVANCED WOOD TECHNOLOGY (2) R-1**

Wood as a fabricating medium; opportunities will be provided for additional experiences in wood use and properties. Individual experimentation will be stressed. (on demand)

**IA 476 SHOP ORGANIZATION AND MAINTENANCE (2)**

Shop design, proper care, and control of shop facilities involving electrical maintenance, lubrication, sharpening, machine and tool adjustment, and purchasing. (autumn)

**IA 479 MANUFACTURING TECHNOLOGY (3) R-1**

The study of one-half of the production system. Students will design, engineer, manufacture, and market products. Prereq.: IA 101. (spring)

**IA 490 INDEPENDENT STUDY (V 1-3)**

Directed research or study on an individual basis. Prereq.: c/i, c/dc, c/DF. (on demand)

**MATHEMATICS****MATH 001 FUNDAMENTALS OF MATHEMATICS (3)**

A course designed to give a minimum competency in mathematics. Credit not applicable for graduation.

**MATH 003 BEGINNING ALGEBRA (3)**

A course designed for students who have not studied algebra. It is an introduction equivalent to first year high school algebra and may be appropriate for those needing a review. Credit not applicable for graduation.

**MATH 104 MATHEMATICS FOR THE LIBERAL ARTS (3)**

A course designed for liberal arts students emphasizing the nature of mathematical knowledge, meaning, methodology, and use. Topics selected from number theory, logic, algebra, geometry, probability, statistics, and problem-solving. Prereq.: MATH 003 or satisfactory score on placement exam.

**MATH 105 INTERMEDIATE ALGEBRA (3)**

A one-semester course in algebra of "quadratics and beyond." Prereq.: 1 entrance unit of algebra.

**MATH 106 APPLIED TRIGONOMETRY (2)**

Trigonometric functions used in solving right triangles and applications. Prereq.: MATH 105 or concurrent enrollment in MATH 105. (autumn)

**MATH 107 INTRODUCTION TO CALCULUS (3)**

An overview of calculus for curriculums not requiring the regular calculus sequence but where some calculus is needed. Prereq.: MATH 105 or equivalent. (spring)

**ED 699 THESIS (V 1-4)**

Supervised preparation of a thesis; may be completed in absentia. Prereq.: ED 620, GP, c/gc.

**ENGLISH****ENG 001 WRITING (3)**

Preparation for college level writing. Includes grammar, punctuation, spelling, sentence structure, and writing and organization of expository paragraphs. Placement determined by ACT scores. Further testing will determine specific areas which require individualized instruction. Laboratory component required. Credit not applicable for graduation. 5 days/week.

**ENG 002 READING (3)**

Preparation for college level reading. Includes improvement in vocabulary, comprehension, critical reading, and study skills. Attention will be given to reading various types of material, especially factual, scientific, and literary. Placement is determined by ACT scores. Further testing will determine specific areas which require individualized instruction. Laboratory component required. Credit not applicable for graduation. 5 days/week.

**ENG 003 SPELLING IMPROVEMENT (1)**

An individualized, self-paced spelling program offered through the Learning Center. Emphasizes rules and patterns of English spelling. Helps students develop personal spelling list. Credit not applicable for graduation.

**ENG 004 VOCABULARY (1)**

An individualized, self-paced vocabulary development program offered through the Learning Center. Emphasizes prefixes, suffixes, and roots. Helps students improve personal and academic vocabularies. Credit not applicable for graduation.

**ENG 101 FRESHMAN COMPOSITION (3)**

This course deals with prewriting as well as writing and includes analysis of audience and purpose, drafting, revising and proofreading manuscripts, emphasis on difference between spoken and written communication and appropriate levels of diction. The goal is the production of clear, focused, well-organized and mechanically correct expository prose. Prereq.: passing score on English placement test or ACT or successful completion of ENG 001.

**ENG 102 FRESHMAN COMPOSITION (3)**

A continuation of ENG 101, includes techniques of library research and the collection, evaluation and organization of source materials, analytical reading, notetaking and documentation of materials. Documented papers are required. Prereq.: grade of "C" or better in ENG 101.

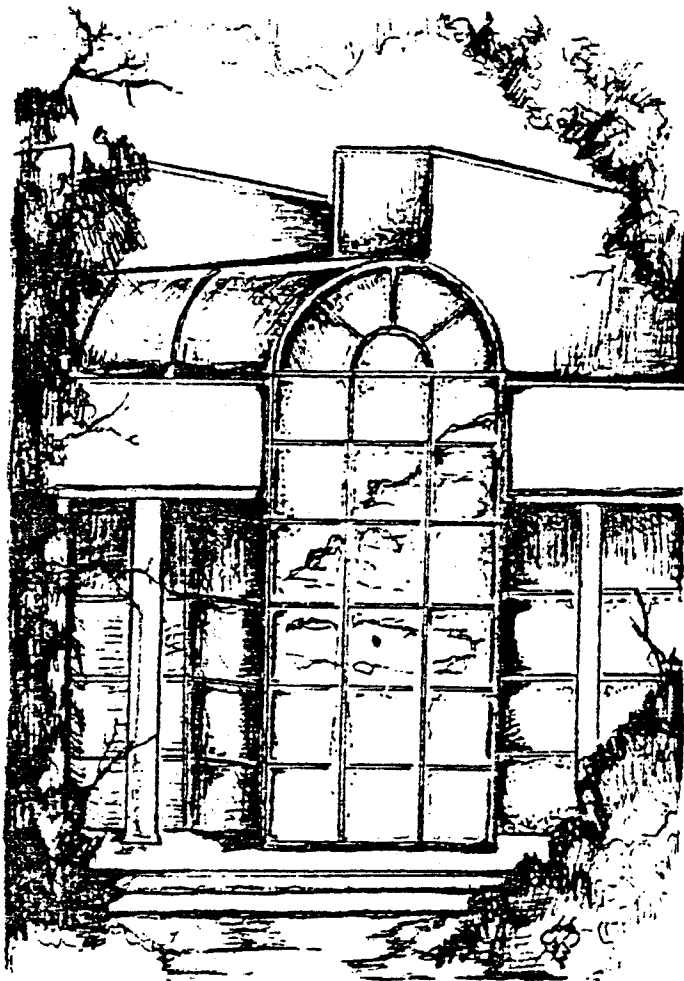
**ENG 131 SPEECH (2)**

Fundamental theory of oral communication and practice in speech preparation and delivery.

**ENG 148 ORAL INTERPRETATION OF LITERATURE (2)**

Designed to develop the art of oral interpretation of the printed page and to achieve appreciation of poetry and prose through practice in oral reading. (on demand)

# Dawson Community College



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## 120 \* Course Descriptions

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**PY 240 Social Psychology 3 credits**  
An introduction to the concepts of social psychology and their relevance to contemporary society. The course includes such topics as prejudice, propaganda, war, alienation, aggression, unrest, sex typing, interpersonal attraction and communication, self-justification, crowding and group behavior. (See also SO 240)

**PY 250 Applied Behavior Analysis 2-3 credits**  
See "Demand Offerings"

**PY 255 Industrial Psychology 3 credits**  
See "Demand Offerings"

**PY 280 Special Topics 1-4 credits**  
Courses not required in any curriculum, for which there is a particular need, or given on a trial basis to determine demand.

**PY 290 Individual Problems 1-4 credits**  
Directed research or study on an individual basis. Requires the consent of the instructor.

### Resource Study Center

**RS 30 Reading Preparation 1 or 2 credits**  
Offers the student an opportunity to strengthen basic reading skills through individualized study: reading rate, comprehension, critical thinking, and vocabulary.

**RS 40 English Preparation 1 or 2 credits**  
Offers the student an opportunity to learn and review basic English usage skills, spelling, sentence and paragraph structure.

**RS 41 Vocational Business Communications 1 credit**  
The student will improve spelling, writing and reading skills as they pertain to business, using practical applications: resumes, job applications, and form letters. This class is primarily designed for non-traditional students not entering a business curriculum.

**RS 80 Math Prep 1 or 2 credits**  
The student will receive instruction to strengthen a specific arithmetic skill, such as fractions or percents, or algebraic skill, such as signed numbers operations and solving equations.

**RS 85 College Arithmetic 2 credits**  
A comprehensive mathematics course covering the basic principles of mathematics, including whole numbers, fractions, decimals, percents, metrics, measurement and pre-algebra.

### Science

**SC 103 Elementary Astronomy 4 credits**  
A general elementary study of astronomy: the earth's movements, the solar system, stars and galaxies. Telescope observations of planets, stars and nebulae are made. Designed for non-science majors.

How can  
arithmetic  
college  
level work?

**LE 235                      Current Issues in Law Enforcement                      2 credits**  
A seminar intended to explore new and/or continuing issues which impact on the justice system. Prerequisite: Consent of the instructor.

**LE 240                      Security Administration                      3 credits**  
The organization and management of security programs in business, industry and government.

**LE 245                      Security Systems                      3 credits**  
An analysis of security hardware and technology; locks, locked storage, electronic alarm devices and alarm systems.

**LE 280                      Special Topics                      1-4 credits**  
Courses not required in any curriculum, for which there is a particular need, or given on a trial basis to determine demand.

**LE 290                      Individual Problems                      1-4 credits**  
Directed research or study on an individual basis. Requires the consent of the instructor.

### Mathematics

**MA 95                      Beginning Algebra                      3 credits**  
The course is designed for students who will study it either as a preliminary to taking Intermediate Algebra, College Algebra or as terminal work in Algebra which is intended as a prerequisite for elementary courses in various fields of education.

**MA 100                      Intermediate Algebra                      3 credits**  
A continuation of the material presented in Beginning Algebra. The course reviews sets and real numbers, then presents a rigorous discussion of topics such as: polynomials, fractions, exponents and radicals, both first and second degree equations and inequalities, the Cartesian coordinate system, and relations and functions. Students with very poor math backgrounds should be encouraged to complete MA 95 before attempting MA 100. Prerequisite: Math Placement Test score or consent of instructor.

**MA 103                      College Algebra                      4 credits**  
A continuation of the material presented in Intermediate Algebra. The material will also include conics, functions, logarithms, complex numbers, matrices and determinants, inverse functions, exponents, induction, and sequence series. Prerequisite: Intermediate Algebra (MA 100), satisfactory completion of advanced high school algebra, Math Placement Test score, or consent of instructor.

**MA 106                      College Trigonometry                      3 credits**  
A basic course in the study of angles and triangles. Students not completing a high school trigonometry course must take this as a prerequisite to the calculus series.

**MA 107                      Descriptive Geometry                      2 credits**  
The study of geometry in drawing, with drawings made by the students. Stresses the drawing of three-dimensional objects, and the solution of problems of the point, line and plane.

**BU 271 Principles of Accounting I 4 credits**

An introduction to financial accounting principles and other specific topics such as: the study of a complete accounting cycle for retail and other businesses, asset, liability, and equity accounts, financial statement preparation, corporation, partnership, and sole-proprietorship entities, and financial statement analysis. Prerequisite: Beginning Algebra, Math Placement test, or consent of instructor.

**BU 272 Principles of Accounting II 4 credits**

A continuation of Principles of Accounting I with an emphasis on those accounting concepts designed to provide information necessary for management use. Specific topics include interpreting financial statement information, study of cost systems, cost-volume-profit analysis, and organizational concepts all of which facilitate the managerial control, planning, and decision making processes. Prerequisite: BU 271.

**BU 280 Special Topics 1-4 credits**

Courses not required in any curriculum, for which there is a particular need, or given on a trial basis to determine demand.

**BU 290 Individual Problems 1-4 credits**

Directed research or study on an individual basis. Requires the consent of the instructor.

**Chemistry**

**CH 095 Prep Chemistry 4 credits**

This is a course designed for students who have little or no chemistry background and have limited mathematical manipulative skills. This course is not a transfer course but will prepare a student for a more advanced chemistry course. Three hours of lecture and two hours of lab each week. Minimum prerequisite: MA 095.

**CH 118 General Chemistry I 4 credits**

A generalized approach to the principles of modern chemistry. Major topics emphasized include measurements, atomic theory and structure, the periodic table, covalent and ionic bonding, the mole concept, stoichiometry and the gas laws. Three hours of lecture and two hours of lab each week. Prerequisite: High school algebra or consent of instructor.

**CH 119 General Chemistry II 4 credits**

CH 119 is a continuation of CH 118. Major topics include solutions, ionization, chemical equilibrium, nuclear chemistry, organic and biochemistry. Three hours of lecture and two hours of lab each week. Prerequisite: CH 118 or equivalent course.

**CH 121 College Chemistry I 5 credits**

A more mathematical approach to the topics of general chemistry. Topics to be covered include measurement, ionic and covalent bonding, chemical reactions, the gas laws, electron configuration and the periodic table, solutions and chemical equilibrium. Three hours lecture and four hours lab each week. This course is recommended for science-oriented majors. Prerequisite: minimum of two years high school algebra or consent of instructor.

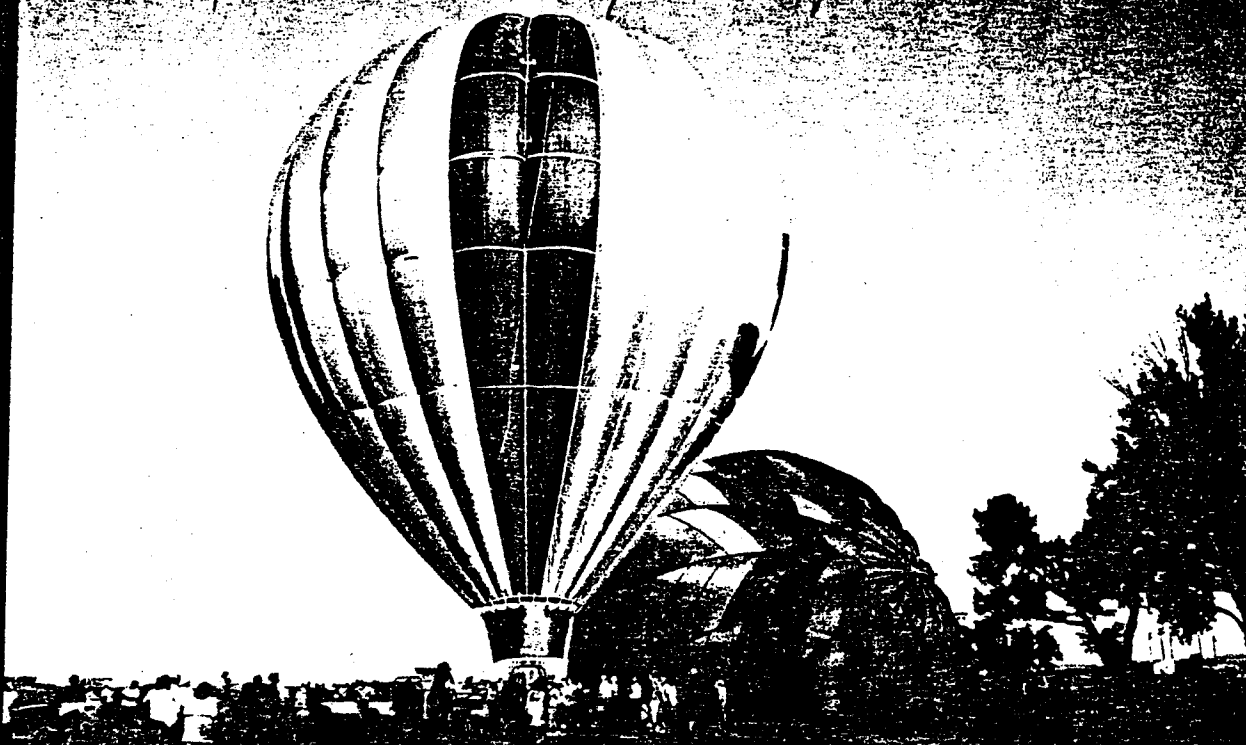


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1939 — 1989

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### 110 Introduction to the Study of Religion 3

An introduction to the theories, origins, nature and function of religion. Various interpretations of man himself, God, and the world are examined. Traditional religious expressions such as ritual, myth, sacred writings, and ethics, are covered to understand man's search for the meaning of life.

### 201 Visual Art Appreciation 3

This course provides a broad study of the visual arts (two and three dimensional) in chronological order. Major political and historical events will be compared to art styles and content. Prerequisite, HU 101 recommended.

### 202 Film and Liberal Arts 3

A broad film study course which defines the formal properties of film including sound, script, theme, form and structure, image, etc. The course discusses how these properties affect the content of the film and the relationship of film to rhetoric, literature, visual arts, music, society, and esthetics. Prerequisite, HU 101 recommended.

### 215 Ethics 3

An introduction to the major theories that dominate moral philosophy. An examination of moral reasoning and argument is represented. Analysis of contemporary moral issues provides opportunity to develop and define one's ideas of right and wrong.

### 104 Pre-Algebra 3

A refresher course in math concepts and operations with whole numbers, fractions, decimals, percents, ratio, measurements, metrics, intergers, literal expressions, proportion, and first degree equations. Designed for students who have basic arithmetic skills but do not have a math concept background.

## LITERATURE (LI)

### 121 Expression through Fiction 3

Short-stories and novels. An introduction to shorter fiction from many countries and many eras.

### 122 Expression through Poetry and Drama 3

An introduction to the possibilities of images, sound and condensed forms. NO PREREQUISITE.

### 124 Literature of Native Americans 3

A study of past and current expressions in writing of tribal experiences. NO PREREQUISITE.

### 210 American Literature 3

A survey of twentieth century American authors with an emphasis on some comparisons of very famous earlier authors such as Twain and Dickinson.

## MATHEMATICS (MA)

### 100 Introduction to Algebra 3

Introduction to algebra focuses on the concepts of algebra. An introduction to number properties, binomial arithmetic, factoring, equation solving, linear equations, fractions and graphs. Note: This course may not transfer toward degree and-or program requirements at a four-year college or university. Contact transfer college for information.

### 104 Intermediate Algebra 5

Traditional topics of the algebraic number system: factoring, equations, exponents, radicals, and practical application. Prerequisite, one year of high school algebra or consent of Instructor.

### 105 Mathematics for Elementary Teachers 3

Mathematics for Elementary Teachers provides familiarity with mathematical concepts in modern mathematics. It emphasizes logic, sets, relations, functions, decimals, numbers and systems of numeration, system of integers and topics of interest.

### 106 Mathematics for Elementary Teachers 3

Focuses on the basic concepts of number theory and mathematical systems, metric conversion, statistics and probability; it includes topics in geometry applications and area-volume problems and practical applications.

### 112 College Algebra 5

A thorough study of the standard topics of college algebra. Includes solution of equations, complex numbers, quadratic function theory, variation, logarithms, polynomials, determinants and matrices, and progressions. Prerequisite, MA 100 or equivalent.

*Hopefully those enrolled are not included in their student FTE count*

## LEARNING SKILLS (SK)

### 010 Adult Basic Education/G.E.D. Preparation 1

Instruction in the skills required to test successfully for the Montana High School Equivalency Certificate or individualized instruction in reading, phonics, spelling, math, vocabulary, etc. at the pre-college level. Individualized instruction and pacing. Students may enroll AT ANY TIME during the academic year by going to the Skills Center during scheduled class hours. NO CHARGE for instruction or materials. (P/W)

### 015 Developmental Studies Var.

Individualized instruction in basic arithmetic, spelling, phonics, vocabulary, reading, and grammar at the pre-college level. Designed for students who need improved skills in these areas before enrolling in 100-level academic courses. (P/W)

### 100 Composition Review 3

A review course in basic grammar, sentence structure, mechanics of grammar, paragraph structure, and short essay writing as a preparation for CA101.

### 101 College Vocabulary I 2

Group study of roots, prefixes, suffixes, related words, and words in context at a college vocabulary level. Designed for students who need expanded college-level vocabularies to read and take notes efficiently in social science, humanities, and science courses.

### 103 Study Skills 2

A course which assists students in organizing study time and materials, taking better lecture notes, and studying more efficiently for exams, and improving reading skills.

## SENATE FINANCE AND CLAIMS

EXHIBIT NO. 1DATE 2/9/93BILL NO. SB 301

ID	ABLE COMP.	ABLE PROB.	ABLE TOTAL	LEVEL STARTED
FA	6.2	PHS	9.3	WHOLES (54) 4-6
VB	7.2	9.1	8.0	FRACTIONS (0) 4-8
SB	7.3	11.0	8.8	WHOLES (77) 4-6
JB	7.1	7.2	7.2	WHOLES (38) 4-6
RB	9.0	9.3	9.0	FRACTIONS (38) 4-8
JB	7.0	6.8	6.9	WHOLES (53) 4-6
DC	5.4	7.4	6.3	WHOLES (60) 4-6
DC	5.7	9.6	7.4	WHOLES (46) 4-6
LF	3.9	5.4	4.6	WHOLES (23) 3-6
MF	PHS	9.8	10.8	RATIOS (56) 7
GG	12.9	PHS	12.7	FRACTIONS (50) 4-8
BG	8.3	12.7	10.0	WHOLES (53) 4-6
KH	6.4	5.4	6.1	WHOLES (54) 4-6
KH	6.2	8.9	7.4	FRACTIONS (13) 4-8
DH	6.9	10.8	8.3	WHOLES (62) 4-6
MH	8.7	12.0	9.9	FRACTIONS (25) 4-8
IH	6.6	7.9	7.2	FRACTIONS (12) 4-8
GH	ESL STUDENT--	NO ABLE	12.8 IN-HOUSE	STORY PROB. 8
RI	PHS	PHS	PHS	STORY PROB. 8
JJ	9.0	11.5	9.9	WHOLES (69) 4-6
RK	8.7	8.9	8.7	WHOLES (69) 4-6
HK	ESL STUDENT--	NO ABLE	10.1 IN-HOUSE	DECIMALS (69) 7
DL	9.0	9.3	9.0	FRACTIONS (12) 4-8
ML	8.7	7.9	8.3	FRACTIONS (50) 4-8
LM	5.9	12.4	8.4	FRACTIONS (12) 4-8
LN	7.7	PHS	10.2	FRACTIONS (0) 4-8
NN	ESL STUDENT--	NO ABLE	6.9 IN-HOUSE	WHOLES (63) 4-6
LO	6.4	9.9	7.9	WHOLES (62) 4-6
LR	7.3	PHS	10.1	WHOLES (69) 4-6
MR	3.6	4.6	4.1	WHOLES (?) 2-6
KS	9.0	10.3	9.4	FRACTIONS (38) 4-8
KS	7.3	12.9	9.4	WHOLES (69) 4-6
JW	12.2	7.2	9.1	RATIOS (0) 7
JW	7.5	6.4	7.0	WHOLES (47) 4-6
PW	5.9	8.3	6.9	FRACTIONS (12) 4-8
DW	12.9	11.0	11.5	FRACTIONS (62) 4-8
RZ	6.8	7.4	7.0	WHOLES (40) 4-6

25 OUT OF 37 (68%) HAD ABLE COMP SCORE LOWER THAN ABLE TOTAL SCORE

COMP. WE USED TO USE THE TOTAL SCORE AS OUR ENTRY AND EXIT, BUT LAST YEAR WE DECIDED TO CHANGE THE SCORE BECAUSE IT MORE ACCURATELY REFLECTS THE ACTUAL FUNCTIONAL LEVEL OF THE STUDENT.

BUT THE AVERAGE ENTRY SCORE AS WE RECORD IT SHOWS, FOR EXAMPLE, THAT THIS GROUP HAS AN AVERAGE LEVEL OF 8.0, WHEN IN REALITY THEIR FUNCTIONAL LEVEL IS AN AVERAGE OF 4.3!

DATE Feb. 9, 1993

SENATE COMMITTEE ON FINANCE & CLAIMS

BILLS BEING HEARD TODAY: SB 301 - Towe

SB 295 - NATHE

Name	Representing	Bill No.	Check One	
			Support	Oppose
Mark Emmert	Montana State Un.	301		✓
Jim Reno	Adult Education	301	✓	
Diane Jensen	O B P P	295	✓	
Carl Michals	O B P P	295		
Bob Kindrick	U. of M.	301		
Bonnie Grace	" "	301		
Staci Riley	MFT			
Carol Mitchell	Cost. Assn.	301/95		X
Dawn Allen	NSLL	301		X

### VISITOR REGISTER

PLEASE LEAVE PREPARED STATEMENT WITH COMMITTEE SECRETARY