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ABSTRACT

This booklet identifies the minimum entrance requirements necessary for college admission in South Dakota's public universities and recommends specific content for each course in the curriculum, as well as additional experiences and skills that would smooth the transition to a higher education course. The following topics, targeted to students themselves, are discussed: (1) general requirements for college admissions and college preparatory curriculum; (2) recommended core courses in English, mathematics, science, social studies, modern/classical languages, fine arts, and computer science; (3) other experiences beyond the core courses; and (4) skills beyond the academic ones needed for academic success. Over half of the booklet is targeted to teachers and administrators. It describes detailed recommended course content for each of these subject areas: English; Mathematics (Algebra I and II, Geometry, Advanced Mathematics, Trigonometry, Finite Mathematics, Statistics); Science (Biology, Chemistry, Physics); Social Studies (Government, United States History, World History, Geography, Economics, Sociology); Modern/Classical Languages; Computer Science; and Fine Arts (Visual Arts, Theatre, Music, Dance). Eligibility requirements for Regents' Scholar diplomas are listed. (ABL)

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# Preparing for College

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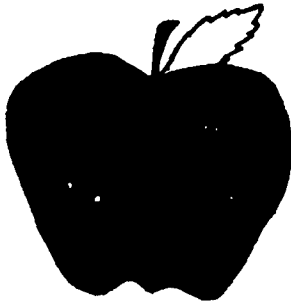
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## A Planning Guide for Junior High Students

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## Dear Friends of Education:

Schools have a complex mission. Some high school graduates enter the workforce immediately, others pursue vocational education, and many enter college. College-bound students should pursue the academically oriented curriculum in high school. Strong evidence exists suggesting that the minimum requirements for high school graduation do not meet the academic needs of college-bound students.

This booklet identifies the minimum entrance requirements necessary for college admissions in South Dakota's public universities and recommends specific content for each course in the curriculum, as well as additional experiences and skills that would smooth the transition to a higher education campus.

For these reasons the Board of Regents has set down certain entrance requirements for students who wish to reach their highest potential by studying at a public university in South Dakota.

When college-bound students seriously desire knowledge, these courses taken at the high school level will not only enhance their general education for life but will also better prepare this generation of students for the rigors of the higher academic studies to come.

Sincerely,



Pat Lebrun, President  
South Dakota Board of Regents

Jackie Jarrett, President  
South Dakota Board of Education

# ***A Special Message to South Dakota Junior High Students***

*If you are about to become a high school student this booklet is for you. You will soon be making some very important choices about your future.*

*The high school courses you take should keep the doors open to whatever you choose to do. Students often handicap their growth by avoiding difficult courses. You can learn more by taking the more advanced subject matter. Success in college comes from a thorough and intensive training in high school.*

*The high school classes and other requirements for admission into the South Dakota public universities are listed on page 2 of this booklet.*

# College Preparatory Curriculum

## Required Classes

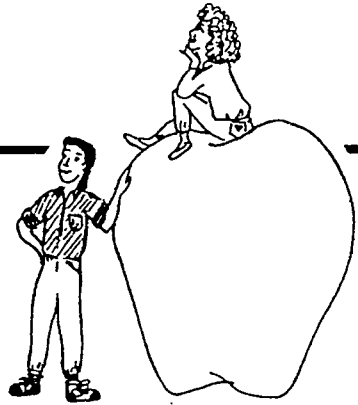
|   | Freshman | Sophomore | Junior | Senior |
|---|----------|-----------|--------|--------|
| English<br>4 years  | _____    | _____     | _____  | _____  |
| Mathematics<br>2 years <i>With a third year of advanced math or laboratory science</i>        | _____    | _____     | _____  | _____  |
| Laboratory Science<br>2 years <i>With a third year of laboratory science or advanced math</i> | _____    | _____     | _____  | _____  |
| Social Studies<br>3 years   | _____    | _____     | _____  | _____  |
| Fine Arts<br>1/2 year   | _____    | _____     | _____  | _____  |
| Computer Science<br>1/2 year  | _____    | _____     | _____  | _____  |

## General Requirements

South Dakota students who have completed the minimum course requirements but who have not obtained a "C" (2.0 equivalent) average grade in the above courses must meet the following requirements:

1. To be admitted to the South Dakota School of Mines & Technology, South Dakota State University or the University of South Dakota you must
  - a. Rank in the top half of your high school graduating class; or
  - b. Have an enhanced ACT composite of 22 or above; or
  - c. Be selected in an exception group limited in size to 3% of the previous year's freshman class (minimum of 20 Enhanced ACT composite score or upper two-thirds of the high school graduating class required.)  
Students in this group must have demonstrated talent such as artistic, musical, or athletic.
  
2. To be admitted to Black Hills State University, Dakota State University, or Northern State University you must
  - a. Rank in the top two-thirds of your high school graduating class; or
  - b. Have an enhanced ACT composite score of 20 or above; or
  - c. Be selected in an exception group limited in size to 3% of the previous year's freshman class (minimum of 18 Enhanced ACT composite score or upper three-fourths of the high school graduating class required.)  
Students in this group must have demonstrated talent such as artistic, musical, or athletic.

# Recommended Core



## ● English

Students entering college need to know how to read critically, think logically, and write a coherent essay. The high school curriculum should prepare you for the many writing, speaking, listening, and reading activities required in college. The specifically recommended content for four years of high school English can be found in the Content Section, pages 8-9.

area. The specifically recommended content for high school mathematics and sample work sets of math problems can be found in the Content Section, pages 10-15.

## ● Mathematics

Our world is becoming more mathematical. Technology requires that young people develop their mathematical skills and understand mathematical concepts. Computers and calculators require a different kind of mathematics than that used in the past. Through mathematics you learn how to think about and solve problems. You should take at least three core math courses-Algebra I, Algebra II, and geometry or an advanced mathematics course with geometry as a major content

## ● Science

Science can help students develop critical thinking skills required in all university programs. You must be able to gather information, compare facts, draw conclusions, and make sound decisions. Students should be knowledgeable in the metric system. The recommended science courses are Biology, Chemistry, and Physics which contain both lecture and laboratory experiences. The recommended content for these courses can be found in the Content Section under Science, pages 16-17.

## ● Social Studies

Social studies education in high school is to prepare young people for responsible citizenship. You must understand the society in which you live and how you fit into society. You must also be able to interact with people from other societies. It is suggested that you take courses which include American History, World History, Government, Geography, Economics, and Sociology. The recommended content of these courses can be found in the Content Section, pages 17-21.

## ● Modern/ Classical Languages

The study of another language can increase your ability to communicate, both orally and in writing. You gain a better understanding of your own culture and a greater appreciation for other cultures. The study of a foreign language at the high school level is not required in South Dakota. It is recommended, however, that college-bound students study one foreign language for at least two years in high school. Proficiency in a Native American language is recognized as meeting modern language requirements. The recommended content has been placed in the Content Section, page 22.

## ● Fine Arts

An appreciation of the arts (visual, music, dance and drama) can improve the quality of your life. You have the option of taking any one-half unit in fine arts. Exposure to the arts can provide emotional experiences and cultural knowledge needed to enhance your academic skills. High schools should provide you with the history, content, and experience of the arts. The specific knowledge and skills in the art areas is contained in the Content Section, pages 23-24.

## ● Computer Science

Computers have become increasingly important in our lives. People purchase personal computers for use in school, work, business, home, and entertainment. Every high school graduate should know how to operate a computer and be familiar with word processing and spreadsheets. The Board of Regents has accepted some high school vocational-technical courses as satisfying Regents admission requirements for computer science. The recommended skills are in the Content Section, page 22.

# Beyond The Core



While the academic courses tend to be the major part of schooling, other experiences also have value. These experiences can develop understanding, attitudes, and skills necessary for you to succeed academically and to participate in college life. Four areas are considered in this section.

## I. Knowledge of Contemporary Affairs

You must be familiar with current events, institutions, and problems. Knowledge can be gained from reading newspapers and magazines, attending meetings where issues are discussed, and keeping informed of daily news items at the local, state, national, and international levels. You should assess the various political, editorial, and other points of view and begin to form your own opinions.

## II. Health and Physical Fitness

Good physical and mental health can help you at college. You need stamina and self-confidence to develop positive

feelings about yourself and others. Health and physical fitness can be developed through activities such as those found in daily family life, physical education courses, and community activities, such as church, Scouts, and 4-H.

## III. Extra-Curricular Activities

Success in college is not just achieving good grades. Extra-curricular activities can help you clarify values and develop leadership. Activities can help you develop the skills needed to interact with persons of other cultural backgrounds. Be careful not to treat extra-curricular activities as an alternative to learning. Extra-curricular activities are available in school, church, and community.



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### III. Problem-Solving

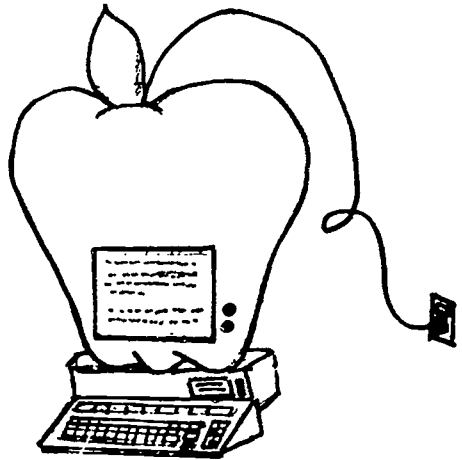
Creative problem-solving involves your abilities to think and understand and to organize material in new ways. You must be able to do more than just memorize information. You must become a critical thinker who can reason and solve problems. Schools must ask students in all grades to do more thinking, more writing, and more problem-solving in mathematics and science. Truly educated people are those who are capable of generating ideas of their own rather than merely using the ideas of other people.

### IV. Library and Other Study Skills

The way you study can influence how much you learn. You can improve your reading and learning by using the library. You should know how to use the card catalog, the retrieval system, and reference materials. In addition to library skills, you should be able to take lecture notes, organize and schedule study time, follow instructions, study for and take tests. Develop these study skills while you are in high school.

### V. Keyboarding

Typewritten papers are a requirement in many college courses. It is, therefore, suggested that students entering higher education have the ability to produce papers and other materials in an acceptable form using an electronic/computerized



typewriter or a word-processing system. A typing course, keyboarding course, or the use of self-taught materials will provide the opportunities needed to develop this skill.

### VI. Technology

New technologies have made many job skills obsolete. American workers will need to be able to master these new technologies and upgrade their skills to meet the job demands. Your employment opportunities are limited if you have weak basic skills or have a difficult time mastering new skills to keep pace with change. You need a solid preparation in reading, writing, mathematics, and reasoning. People who are prepared for a technological future will lead more productive lives.

# Recommended Course Content

## A SECTION FOR TEACHERS AND ADMINISTRATORS

### English

#### Freshman Year

- **Writing:** Frequent writings about personal subjects; writing as a means of discovery and understanding experience; aims are fluency, naturalness, and confidence (journal writing, free writing, descriptions of objects, events, processes, and ideas.)
- **Literature:** Reading to appreciate short fiction, poetry, drama, and non-fiction; encouraging independent reading.
- **Speaking/Listening:** Preparing for and participation in informal speaking activities (sharing ideas, introductions, relating personal experiences, informal group discussions, listening and reacting to views).
- **Language:** Reviewing grammatical principles and standard usage; understanding the need for and origin of standard usage; spelling practice; vocabulary development; use of dictionary; understanding differences in sentence patterns.

#### Sophomore Year

- **Writing:** Frequent writings about personal subjects; emphasizing the development of expressive essays for different audiences; learning appropriate prewriting, writing, and rewriting processes; aims are fluency, ability to plan, draft, arrange, and edit informal essays for different audiences (informative process essays, narratives, descriptions, journal writing, personal expository essays).
- **Literature:** Read and appreciate different literary genres and literature from other cultures and ethnic groups; begin to acquire a literary vocabulary; examine the literature to appreciate and understand theme and techniques.
- **Speaking/Listening:** Frequent and informal speaking and listening activities (group discussions, panel discussions, impromptu speeches, oral interpretations of literature, reports).
- **Language:** Learning to apply the knowledge of language to the actual processes of writing, rewriting, and editing essays for different purposes and for different audiences; spelling practice; vocabulary development.

## Junior Year

- **Writing:** Informative writing about public subjects, addressed to critical audiences; intensive work in the library to locate and evaluate information; supporting and distinguishing between facts and opinions; essays, (developed through the preliminary investigative stages to the final editing stages), express the writer's involvement in the subject, clarify purpose to audience, and analyze, support, evaluate, and document information (information summaries, paraphrasing, critiquing; research reports, critiques and examinations of public information-- i.e., articles, editorials, literature, films, public performances).
- **Literature:** Surveying and responding to the diversity (different genres, themes and cultural elements) and development of American literature and the American culture; learning to respond actively and imaginatively to the literature.
- **Speaking/Listening:** Preparing and delivering formal speeches; researching, planning, practicing speeches for delivery in front of critical audiences; learning to use the library for the investigation of information; developing the ability to evaluate and analyze information; critically listening to and responding to speeches, recognizing the intent and techniques of the speaker, the main and subordinate points, and misleading or illogical information.

- **Language:** Surveying history and development of language, levels of usage and the variety of dialects; continuing frequent use of dictionary; studying words and meaning; using grammatical principles to guide writing and editing.

## Senior Year

- **Writing:** Writing that informs, argues, and persuades; addressed to critical audiences, concentrated prewriting work in the investigation, analysis, examination, evaluation, and documentation of primary and secondary sources; learning to understand and support argument; carefully rewriting and editing drafts (persuasive essays, letter to government officials or to editors, literature critiques, resumes, essay test responses).
- **Literature:** Surveying and responding to British literature to appreciate and understand the culture; encouraging independent reading, analysis and discussion.
- **Speaking/Listening:** Continued participation in formal and informal speaking activities; study of communicative theory, rhetorical analysis, and critiquing (formal presentations of argument, debate, panel discussions, impromptu speeches, leadership roles).
- **Language:** Reemphasizing and studying levels of usage; reviewing grammatical system; continuing to study word origins and meanings; developing vocabulary; use of dictionary.

# Mathematics

## The Core:

### Algebra I

- Use of variables to represent unknown quantities.
- Perform operations with polynomials.
- Solve equations and inequalities involving one or more unknowns.
- Solve word problems using each of the above concepts.

### Algebra II

- Extend knowledge of linear and quadratic equations, inequalities, systems of equations, exponents, radicals, absolute values, and polynomials.
- Apply the principles of complex numbers.
- Understand exponential and logarithmic functions.
- Graph all common functions studied.
- Perform basic operations on and with rational expressions.

### Geometry (Prerequisite: Algebra)

- Able to organize thoughts.
- Know the concepts of angles, points, lines, and geometric forms--particularly triangles, circles, and four-sided figures.
- Understand the performance of geometric proofs.

## Advanced Courses

These courses should be taken, as available, after completion of Algebra I, Algebra II, and preferably geometry. Advanced courses are especially significant to the student considering a career in sciences, mathematics, engineering, or computer science.

- A. Advanced Mathematics
- B. Trigonometry

## Peripheral Courses

These courses should not be substituted for any core courses. They can be important to students preparing for certain curricula and should be taken if available.

- A. Finite Mathematics
- B. Statistics

Note that the study of calculus is not encouraged at the high school level.



# Sample Mathematics Problems

## Algebra I

1. Arithmetic operations with positive and negative rational numbers.

Find  $1\frac{9}{10} - 7\frac{1}{2}$

Find  $-6 - .6$

2. Arithmetic operations with literal symbols.

Simplify:  $\frac{2}{a} + \frac{3}{b} - \frac{5}{a}$

3. Linear equations and their graphs.

Solve:  $\frac{2}{3x+1} + 2 = \frac{2}{3}$

4. Inequalities.

Solve  $4x - 1\frac{1}{2} \geq 2\frac{3}{4} + x$

5. Ratio, proportion, and variation.

If  $y$  varies directly as  $x$ , and  $y$  is 36 when  $x$  is 4, find  $y$  when  $x$  is 6.

6. Operations with integer exponents.

Express  $(x^4y^{-3})(x^{-7}y^2)^{-1}$  without parenthesis or negative exponents.

7. Operations with polynomials and rational expressions.

Expand  $(x^2 - 3x + 5)(2x - 1)$

Simplify:  $\frac{2}{x^2 - 9} + \frac{1}{x + 3} - \frac{3}{x - 3}$

8. Systems of linear equations and their solutions.

Graph  $2x + 3y = 6$  and  $x - y = 3$  and find their point of intersection.

9. Special products and factoring.

Factor completely:  $3x^2 + 20x + 12$

10. Solution of quadratic equations.

Solve:  $x^2 + 3x - 2 = 0$

11. Use of formulas.

If the diameter of a circle is  $a$  and its circumference is 20 cm., find the circumference of a circle whose diameter is  $\frac{3}{2}a$ .

12. Elementary word problems.

A company currently owns a copy machine that takes 5 hours to print 5,000 copies of a newsletter. If the company buys a second copier that prints 1,500 copies per hour and uses both machines, how long will it take to print these newsletters?

## Algebra II

Before beginning this course the student must have mastered the content of Algebra I.

1. Simplification of algebraic expressions.

Simplify:

$6x - \{2x - [2(y - 3x)] - 5y\}$

2. Fractional exponents and radicals.

Simplify:  $\left(\frac{9^5x^{3/2}y^{3/2}}{81x^{-1/2}y^{-1}}\right)^{1/2}$

3. Absolute value equations and inequalities.

Solve:  $|3 - 5x| < 12$

4. Operations on complex fractions.  
Simplify:

$$\frac{\frac{1}{x+1} - \frac{1}{x+2}}{\frac{1}{x+2} - \frac{1}{x+3}}$$

5. Word problems and quadratic equations.

A grocer sold oranges at a dollar a bag and raised the price per dozen by 10 cents by reducing the number of oranges in a bag by 4. Find the original number of oranges in a bag, and the original price per dozen.

6. Complex numbers.

Calculate  $\frac{5+5i}{2+i}$  in standard form

7. Quadratic inequalities.  
Solve:  $x^2 - 2x - 3 > 0$

8. Graphing linear and quadratic functions and inequalities.

Write an equation of the line which passes through the points  $(-2, 3)$  and  $(1, -2)$  and sketch its graph.

9. Equations with rational expressions.

Solve:  $\frac{3w+5}{2w-1} = \frac{6w+1}{4w-1}$

10. System of linear systems.

Solve:

$$\begin{cases} x + 2y - z = 6 \\ 2x - y + 3z = -13 \\ 3x - 2y + 3z = -16 \end{cases}$$

11. Polynomial equations.

Solve:  $x^4 - x^3 + 2x^2 - 4x - 8 = 0$

12. Binomial theorem.

Write the expansion of  $(n^2 - 3m)^6$  and simplify the terms.

13. Arithmetic and geometric sequences and series.

Find the 20th term and the sum of the first 20 terms of the sequence 4, 6, 8, ...

14. Exponential and logarithmic functions and equations.

Solve:

$$11^{2x-1} = 7^x$$

Write as a single logarithm:

$$\frac{1}{2} \log 52 - \frac{2}{3} \log 5 - 4 \log 3.$$

15. Functions.

If  $f(t) = 3t^2 + 4$ , find  $f(3t)$ ,  $f(t+1)$ ,  $f(2)$ , and  $f(t+h) - f(t)$ .

16. Word problems and estimation.

Which integral power of 10 gives the best approximation to

$$\frac{10^{1.02} \times 10^{-1.01}}{995} + 10^{-3}?$$

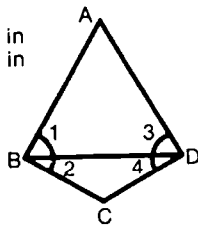
A bacteria population grows exponentially. At the start of an experiment the bacteria population numbers 1000. Two days later the population numbers 2000. What is the size of the population 5 days after the start of the experiment?

### Geometry

Students must have mastered the material in Algebra I before beginning a course in Geometry.

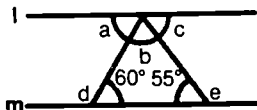
1. Angles.

Given:  $AB \perp BC$   
 $AD \perp DC$   
 $\angle 1 = \angle 3$   
Prove:  $\angle 2 = \angle 4$



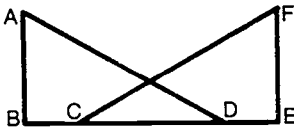
2. Parallel lines.

If lines  $l$  and  $m$  are parallel, find the measures of all the lettered angles.



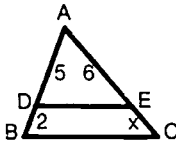
3. Congruent triangles.

Given:  $\angle A = \angle F$   
 $\angle B$  and  $\angle E$  are  
 right angles  
 $BC = DE$   
 Prove:  $\triangle ABD \cong \triangle FEC$



4. Similar Triangles.

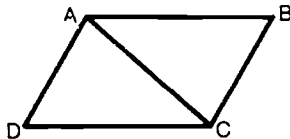
Find  $x$  if  $DE \parallel BC$



5. Rectilinear figures.

Given  $AB = CD$   
 $AD = BC$

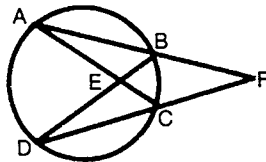
Prove:  $AB \parallel CD$



6. Circles.

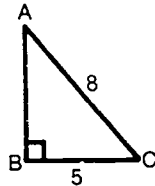
Given:  $\angle A = \angle D$   
 Prove:

$$\frac{AE}{AB} = \frac{DE}{DC}$$



7. Pythagorean theorem.

Find the length of  $AB$  if  $\angle B = 90^\circ$ .



8. Formulas for perimeters, areas, and volumes

An oval running track is made by placing two semicircles along the shorter sides of a rectangle which measures 350 feet by 140 feet. How far is it around the track?

(Use  $\pi = \frac{22}{7}$ .)

9. Constructions.

Divide line segment  $AB$  into 3 congruent segments using compass and straight-edge only.

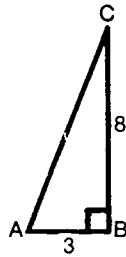
10. Locus.

Describe the locus of points equidistant from two given intersecting lines.

11. Coordinate geometry proof.

Use coordinate geometry to prove that the diagonals of a parallelogram bisect each other.





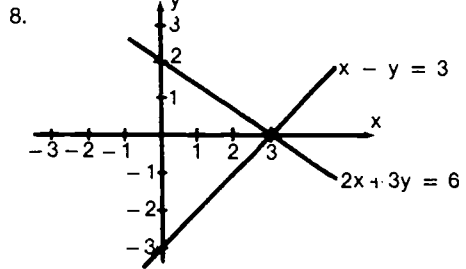
12. Right triangle trigonometry.  
 (a) Given:  $\triangle ABC$  with  $\angle B = 90^\circ$   
 Find:  $\sin A$ ,  $\tan A$ ,  $\cos C$

13. Word problems.  
 A man six feet tall is standing ten feet away from a point directly under a tree light. If the tip of his shadow extends five feet further from the light, how high off the ground is the light?
14. Intuitive spatial geometry.  
 A cube has an edge length of 5 inches. What is the length of an interior diagonal?

### SAMPLE PROBLEMS — ANSWERS

#### Algebra I

- $-5\frac{3}{5}$ ;  $-10$
- $\frac{3(a-b)}{ba}$
- $x = -\frac{5}{6}$
- $x \geq \frac{17}{12}$
- $y = 54$
- $\frac{x^{11}}{y^5}$
- $2x^3 - 7x^2 + 13x - 5$ ;  
 $\frac{-10 - 2x}{x^2 - 9}$



- $(x + 6)(3x + 2)$
- $x = \frac{-3 \pm \sqrt{17}}{2}$

- 30 cm.
- 2 hours

#### Algebra II

- $-2x + 7y$
- $27xy^{7/4}$
- $-\frac{9}{5} \leq x \leq 3$
- $\frac{x+3}{x+1}$
- 24 oranges per bag, 50¢ per dozen
- $3 + i$
- $x < -1$  or  $x > 3$

8.  $5x + 3y + 1 = 0$

9.  $\frac{4}{21}$

10.  $x = -1, y = 2, z = -3$

11.  $-1, 2, \pm 2i$

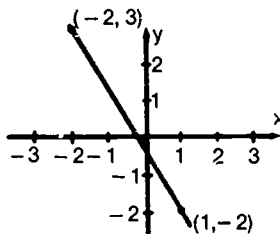
12.  $n^{12} - 18n^{10}m + 135n^8m^2 - 540n^6m^3 + 1215n^4m^4 - 1458n^2m^5 + 729m^6$

13. 42, 460

14.  $\frac{\log 11}{2 \log 11 - \log 7} ; \log \left( \frac{\sqrt{52}}{81\sqrt[3]{25}} \right)$

15.  $27t^2 + 4, 3t^2 + 6t + 7, 16, 6ht + 3h^2$

16.  $10^{-3} \quad 4000\sqrt{2} \quad \square$



**Geometry**

1. Show that  $\angle 1$  and  $\angle 2$  are complementary, as are  $\angle 3$  and  $\angle 4$ ; complements of equal angles are equal.
2.  $\angle a = 60^\circ, \angle b = 65^\circ, \angle c = 55^\circ, \angle d = 120^\circ, \angle e = 125^\circ$
3.  $\angle B = \angle E$  because right angles are equal,  $BD = BC + CD = DE + CD = CE$  by addition of the common segment  $CD$ , the triangles are congruent by AAS.
4.  $x = \frac{12}{5}$
5.  $AC = AC$  so  $\triangle ABC \cong \triangle CDA$  by SSS,  $\angle BAC = \angle DCA$  which makes  $AB \parallel CD$  because the alternate interior angles are equal.
6.  $\angle AEB = \angle DEC$  because they are vertical angles,  $\triangle AEB \approx \triangle DEC$  by AA, corresponding sides of similar triangles are proportional.
7.  $\sqrt{39}$
8. 1140 ft.
9. (construction)
10. The locus is the two lines which bisect the angles formed by the given lines.
11. Assign coordinates to the vertices of the parallelogram and then use the midpoint formula to show that the midpoints of both diagonals coincide.
12.  $\sin A = \frac{8\sqrt{73}}{73} = \cos C, \tan A = \frac{8}{3}$
13. 18 ft.
14.  $5\sqrt{3}$

# Science

## Biology

- Gain an appreciation for the methods of scientific investigation.
- Recognize the characteristics, requirements and levels of organization in living things.
- Know the international classification system used to organize living things.
- Explore the structure, function, and reproduction of cells, along with the historical background of the cell theory.
- Understand the fundamentals of inorganic chemistry as applied to biology and discuss the role of organic substances important to living things.
- Understand how cells obtain, store, and use energy and materials required for life functions.
- Apply the principles of Mendelian and post-Mendelian genetics.
- Understand the biological basis for modern genetic technologies and their social implications.
- Understand the mechanisms and recall the evidence for the evolution of life forms.
- Appreciate the diversity of life forms on the earth and the special characteristics of each major group.
- Relate the structures of vascular plants to their function.
- Relate the structures of the higher animals to their function.
- Understand the major pattern of sexually reproducing organisms and the differences between asexual and sexual reproduction.

- Understand the patterns of development in plants and animals.
- Understand and appreciate the complex interrelationships between the biotic and abiotic portions of our environment.
- Understand the biological basis of animal behavior.
- Use the skills and knowledge of biology as they apply to personal and social decisions.
- Appreciate the interactions among science-technology-society in the context of science-related societal issues.

## Chemistry

- Know basic safety and laboratory equipment usage.
- Collect and present data--Metric system, scientific notation, chemical mathematics.
- Understand the nature of matter, phases and forms.
- Understand chemical calculations.
- Know the nomenclature.
- Understand molecular concepts.
- Explore descriptive chemistry including periodic relationships.
- Understand basic atomic structure including subatomic particles.
- Understand ionic and covalent bonding.
- Know gas laws.
- Understand concentration.
- Understand LeChatelier's principle.
- Explore and know acids, bases, salts, pH scale.
- Understand oxidation and reduction.

Other topics may be included depending upon the availability of time and interest of the instructor. These include, but aren't limited to:

- Introduction to organic chemistry
- Atomic orbitals
- Thermochemistry
- Advanced discussion topics listed under the sections above.

## Physics

- Utilize the process of problem solving through logical analysis of everyday phenomena.
- Understand the basic physical laws that help explain a wide variety of phenomena.
- Utilize scientific apparatus to control and measure variables.
- Develop critical independent thinking regarding the advancement of technology in a finite world.

## Social Studies

### Government

Classroom instruction in government should begin with an overall examination of the concept of citizenship in the United States. The varied demographic makeup of the American people should be emphasized. Emphasis should be placed not only on the rights of citizens, but also on their corresponding responsibilities. The following additional topics should also be extensively examined in the government course:

- The federal system, its background, structure, powers, officials
- The U.S. Constitution and its background
- The executive, legislative, and judicial branches of the federal system



- The two-party system and minor parties
- Federal revenues and expenditures
- The American voter
- Selection of candidates and the financing of campaigns
- Politics, public opinion, voter behavior, pressure groups
- Types of elections and the electoral college
- Municipal, county, and state government in South Dakota and services provided by each
- State and local government revenues and expenditures
- Qualifications, terms, and powers of local and state elected officials
- Current events, international relations, and the role of the United States in the world today

## **United States History**

### **A New Nation**

- America before Columbus
- Colonization
- Life in the colonies
- Cause of the American Revolution
- From the Declaration of Independence to the Constitution
- Development of political parties and national life
- The "Era of Good Feelings"
- Sectional differences

### **Conflict and Reunion**

- Jacksonian democracy
- Abolitionism
- The system of slavery
- Manifest destiny and expansion
- The rise of "sectionalism"
- Causes of the Civil War
- Reconstruction

### **Emergence of Modern America**

- Industrialization and growth of industry
- Farm and labor movements
- Imperialism and the war with Spain
- The Progressive Movement

### **World War, Depression, War Again**

- Causes of U.S. intervention in WWI
- A troubled peace
- Return to "normalcy"
- The "revolutions" of the 1920's
- The Great Crash
- Causes of the Depression
- The New Deal
- The roots of World War II and reasons for U.S. intervention
- America is the world's greatest power

### **Since World War II**

- The Truman Era
- The Korean War
- Anti-communist hysteria
- "The great postponement" of the 1950's

- From New Frontier to Great Society
- Liberation movements of the 1960's
- The war in Vietnam
- Watergate and the dilemma of the presidency
- The "new conservatism"

## **World History**

- Introductory material on the nature of history
- Historical scholarship, interpretation
- The geographical setting
- Prehistoric, ancient, and medieval periods
- Civilization as an advanced level of culture
- The advent of literacy and the beginning of history
- The common practices of all ancient civilizations and their differences
- Major developments of Chinese, Indian, Native African, and New World civilizations through the fifteenth century
- Civilizations of the Near East
- The Mediterranean Basin
- The Aegean civilizations and the flowering of the Hellenic and Hellenistic periods
- Philosophical, political, and aesthetic contributions that derive from the "Greek genius"
- History of Rome from the Etruscan influence through the Pax Romana
- Transition from Republic to Empire
- Cultural homogeneity of the Mediterranean Basin
- The demise of the Western Roman Empire
- The emergence of Judaism and Christianity

- Growing differences between East and West
- Collapse of the Western Empire
- The Byzantine experience and the rise and ascendancy of Islam
- Christianity, Germanic culture, and Classicism
- European political history in the medieval period
- Origins, major characteristics, and significance of feudal and manorial traditions
- Russia from the Kievan period forward
- The Roman Church
- The Celtic Church and institutional differences with Rome
- Awakening of the West and simultaneous decline of the Byzantine Empire
- Emergence of the Church-State struggle
- The Crusades
- The re-emergence of commerce, towns, and middle class
- The birth of the university
- The decline of the medieval church
- The Renaissance and the Reformation
- Western civilization since the Renaissance
- Religious upheaval, imperial expansion, and dynastic conflicts in the sixteenth century
- The Catholic Counter-Reformation
- European expansion
- The Scientific, Technological, and Commercial Revolutions
- The Divine Right of Kings
- British Parliament's supremacy over the Crown
- Conflict between England and France in the eighteenth century

- The Eighteenth Century Enlightenment
- The French Revolution
- Liberal democracy in Britain, France, and the minor states
- Romanticism to Realism to Materialism
- National unification in Italy and Germany
- The origins of World War I
- Facism, communism in Europe
- The peace settlement of Versailles
- World War II
- The Cold War
- Korea and Vietnam
- Modern problems

## Geography

Geography is a process-oriented science devoted to the study of the varied physical and human features of the earth's surface. Basically, geographic analysis attempts to explain the distribution of features or conditions of the world around us, how these distributional patterns came to exist, and their importance. With this focus, geography is unique among the sciences. It is a holistic or integrative field of study that spans both the traditional physical and social sciences. Geography also differs from most other sciences because it is identified by its method (spatial) rather than by its content. The chief spatial or geographic question is where? Geography offers a methodology--a unique way of organizing and analyzing information pertaining to the earth's natural and cultural features and their patterns of distribution about the globe. Geographers attempt to understand why fea-

tures occur in certain locations, as well as the distributional patterns themselves. The regional concept is fundamental to geographic analysis by spatially organizing information. The ability to interpret and use maps is essential to geographic study. A geography course should emphasize:

- Developing a "mental map" of the world, to include the locations of major physical and cultural features and conditions, political units, cities, and basic economic activities.
- Basic map reading skills, including an understanding of map symbols, scale, direction, and distance; various types of maps; the use of different maps to interpret geographic information and solve geographic problems.
- The regional concept as it is applied to identifying patterns of physical or cultural homogeneity on a local, state, national, and global scale.
- Those processes or agents, be they physical or cultural in nature, that explain the presence of features, distributional patterns, and continuing change within the natural and human world.
- The importance of culture and technology in identifying and using the earth's environmental resources.
- Consequences of human action in the utilization of environmental resources and in altering the earth's surface and the need for environmental planning.
- The distinct ways by which various societies inhabit, modify, and culturally adapt to

the earth's different physical environments.

- Ways by which ideas and materials move about the world, and the importance of accessibility and isolation as primary factors contributing to the various levels of cultural attainment that exist today as in the past.
- Interdependence of all human societies and geographical locations in today's global community.
- The often fragile nature of those interrelationships that exist between and among the earth's various physical and cultural systems.
- An appreciation of change as a constant condition within both the physical and cultural environment.
- The beauty of diversity found within the varied natural landscapes and cultural differences.

## **Economics**

### **Fundamental Economic Concepts**

#### **Scarcity**

Economic Wants

Productive Resources (Human Resources, Natural Resources, Capital)

Opportunity Cost and Trade-offs  
Productivity

Specialization, division of labor  
Investment in capital goods  
Investment in human capital  
Technological change

Economic Systems

Economic Institutions and  
Incentives

Exchange, Money, and  
Interdependence

## **Microeconomic Concepts**

### **Markets and Prices**

#### **Rationing**

The circular flow of Resources,

Goods, Services and Money

#### **Payments**

### **Supply and Demand**

### **Competition and Market Structure**

### **Income Distribution**

### **Public Goods**

### **The Role of Government**

### **Major Economic Questions**

answered in the Marketplace

(What? How? For Whom?)



## **Macroeconomic Concepts**

### **Gross National Product**

### **Aggregate Supply**

### **Aggregate Demand**

### **Unemployment**

#### **Frictional (Transitional)**

#### **Structural**

#### **Cyclical**

### **Inflation and Deflation**

#### **Demand-Pull**

#### **Cost-Push**

#### **Price Expectations**

### **Fiscal Policy**

### **Monetary Policy**

#### **Role of Money--money creation**

#### **Depository Institutions**

#### **Federal Reserve System**

## **Social Goals: Public Policy:**

(Evaluating Economic Performance and Policies)

### **Economic Freedom**

### **Economic Growth**

### **Economic Security**

### **Economic Stability**

### **Economic Efficiency**

### **Economic Justice**

## **Sociology**

### **Introduction**

#### **Definition of sociology**

#### **Early development of the field**

#### **Research methods**

### **Individual and Society**

#### **Culture**

#### **Society**

#### **Socialization**

#### **Deviant Behavior, Social Control**

### **Social Problems**

#### **Inequality**

#### **Race, Ethnic, Sex Discrimination**

#### **Crime**

#### **Substance Abuse**

### **Social Institutions**

#### **Family**

#### **Government**

#### **Religion**

#### **Education**

#### **Economy**

### **Social Change**

#### **Collective Behavior and Social**

#### **Movements**

#### **Population Problems**

#### **Communities**

#### **Types of Social Change**



# Modern/Classical Languages

## First Year

- Thorough grounding in pronunciation, basic vocabulary, and grammar.
- Simple conversations, writing, and cultural readings.
- Emphasis on speaking and listening skills.

## Second Year

- Continuation of training in pronunciation and vocabulary building.
- Completion of presentation of basic grammar.
- Continued emphasis on conversation, with additional emphasis on writing and cultural reading.

## Third Year

- Systematic review of fundamentals of grammar and pronunciation with more advance work in conversation and composition.
- Emphasis on cultural readings in the foreign language (magazines, newspapers, short stories, essays, poems).

## Fourth Year

- Continued practice in speaking, understanding, and writing.
- Special attention to the more difficult grammatical constructions and idioms.
- Special emphasis on cultural and literary readings (short novels, plays, short stories essays, poetry).

Latin may be taken in lieu of a modern language. Since Latin serves as a most useful spring-board into other foreign languages, students may study two years of Latin followed by the introduction to a modern language which will increase language competence markedly. In Latin courses, the emphasis will not be on oral-aural communications, but on structure, vocabulary, reading, and writing, as well as the humanistic values of the classics. The Board of Regents recognizes Native American languages as modern languages.

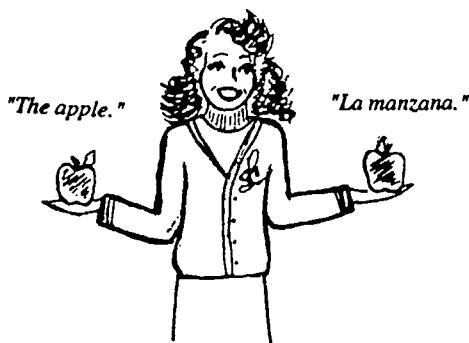
# Computer Science

## First Course

- Introduction to hardware and basic terminology
- History of computers
- Ethical use of computers
- Spreadsheets, word processing, data bases, and other relevant applications

## Second Course

- Language elements/coding style
- Problem analysis, program structure and design
- Testing and documentation
- Ethics



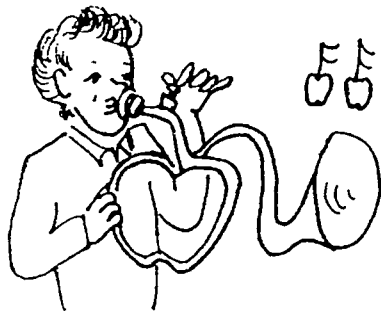
# Fine Arts

An outline of the basic academic skills high school students should achieve in preparation for college study was presented by the College Entrance Examination Board in the spring of 1983. In this outline, the arts are given parity with science, mathematics, English, foreign languages, and the social sciences as necessary preparation for college. This report is directly applicable to South Dakota high school students.

Students going to college will profit from the following preparation in the arts:

- The ability to understand and appreciate the unique qualities of each of the arts.
- The ability to appreciate how people of various cultures have used the arts to express themselves.
- The ability to understand and appreciate different artistic styles and works from representative historical periods and cultures.
- Some knowledge of the social and intellectual influences affecting artistic form.
- The ability to develop critical thinking and problem solving skills.
- The ability to contribute to cultural knowledge.
- The ability to use the skills, media, tools, and processes required to express themselves in one or more of the arts.

College entrants also will profit from more intensive preparation in at least one of the four areas of the



arts. visual arts, theater, music, and dance.

- **Visual Arts** - If the preparation of college entrants is in the visual arts, they will need the following knowledge and skills:
  - The ability to identify and describe--using the appropriate vocabulary--various visual art forms from different historical periods.
  - The ability to analyze the structure of work of visual art.
  - To know how to express themselves in one or more of the visual art forms, such as drawing, painting, photography, weaving, ceramics, and sculpture.
- **Theatre** - If the preparation of college entrants is in theater, they will need the following knowledge and skills:
  - The ability to identify and describe--using the appropriate vocabulary--different kinds of plays from different historical periods.

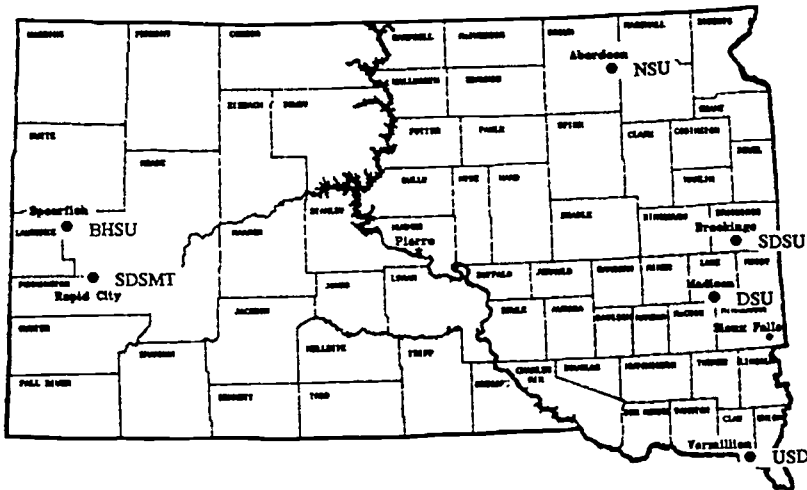
- The ability to analyze the structure, plot, characterization, and language of a play, both as a literary document and as a theater production.
- The knowledge of how to express themselves by acting in a play or by improvising, or by writing a play, or by directing or working behind the scenes of a theater production.
- **Music** - If the preparation of college entrants is in music, they will need the following knowledge and skills:
  - The ability to identify and describe-- using the appropriate vocabulary-- various musical forms from different historical periods.
  - The ability to listen perceptively to music, distinguishing such element as pitch, rhythm, timbre, and dynamics.
- The ability to read music.
- The ability to evaluate a musical work or performance.
- The knowledge of how to express themselves by playing an instrument, singing in a group or individually, or composing music.
- **Dance** - If the preparation of college entrants is in dance, they will need the following knowledge and skills:
  - The knowledge of how to express themselves through dancing or choreography.

# Regents' Scholar

South Dakota's Department of Education and Cultural Affairs and the South Dakota Board of Regents annually recognize seniors committed to academic excellence by issuing Regents' Scholar diplomas. Recipients are accepted for automatic entrance to any public university in South Dakota. To be eligible, a student must have completed the following courses with no final grade below a C and a grade point no lower than a B.

- 4 units of English
- 4 units of mathematics
- 4 units of science
- 3 units of social studies
- 2 units of one foreign language.

# South Dakota Public Universities



Black Hills State University (BHSU),  
Spearfish, SD. For more  
information: 605-642-6742

Dakota State University (DSU),  
Madison, SD. For more information:  
605-256-5127

Northern State University (NSU),  
Aberdeen, SD. For more  
information: 605-622-2544

South Dakota School of Mines &  
Technology (SDSMT), Rapid City, SD.  
For information: 605-394-2215

South Dakota State University  
(SDSU), Brookings, SD. For more  
information: 605-688-4121

University of South Dakota (USD),  
Vermillion, SD. For more information:  
605-677-5434

## A GREAT EDUCATION Close to perfect. Close to home.

EDITORS NOTE: This booklet was prepared by representatives of the public universities of South Dakota, high school principals and teachers. Representatives from the 1987-88 curriculum task force committees assisted in the review of this booklet, suggesting necessary changes so that it became useable by junior high students.

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