

Online Education and Training – General Information



**InForm Net an Online Education Program offered by the
Pembina Trails and St. James-Assiniboia School
Divisions of Manitoba, Canada.**

**InForm Net is an Internet based alternative instructional
environment where students participate in online
learning experiences to achieve credits in high school
courses.**

InForm Net Student Manual and Policy Guide

The aims of InForm Net

InForm Net offers high school academic credits to Senior 1 to 4 students. At InForm Net, it is understood that many students are involved in school activities, have jobs, families and other responsibilities. InForm Net is designed to accommodate students by allowing them freedom and flexibility to work at times convenient for each individual.

High School Students

Consortium Students

Students currently enrolled in the Pembina Trails and St-James-Assiniboia School Divisions may enroll in an on-line course at no cost. Fees for these students are covered by the school division's membership fee within the consortium.

Non-consortium Students

Students currently enrolled in high schools outside the above listed divisions will need permission from their current school division and will also be charged a fee of \$500.00 per course.

General Information

Who is InForm Net for?

InForm Net provides options and opportunities for learners in many situations:

- Students registered in high schools that may not be able to provide core, complimentary or optional courses for a variety of reasons. (e.g. staffing, scheduling and enrollment)
- Students who are currently on a home schooling program. (e.g. health issues and school of choice decisions)
- Mature and adult students in a variety of different situations. (e.g. those enrolled in adult learning centers, part time students and those desiring upgrading or additional courses for continuing education purposes)
- Students whose life and career goals frequently require extended periods of time away from their designated school. (e.g. those who are involved in performing arts and elite athletics)
- Students whose family circumstances necessitate extended periods of travel or relocation. (e.g. missionary or humanitarian work, cultural exchanges and career or job related transfers)

How does InForm Net work?

Any working environment includes a series of involved and shared responsibilities. Students, teachers, parents and administrators all have specified roles within the online learning community.

The Role of the Student:

- Students are expected to be in regular attendance. Attendance is defined as submitting work regularly and participating fully in class activities.
- Students are expected to make their assignments a priority and participate in all class activities including discussion projects and assignments.

The Role of the Teacher:

- The teacher provides interesting instructional materials based on Manitoba Education and Training Curriculum.
- The teacher will be available to students online on a daily basis. This involves checking and responding to e-mail regularly throughout the day, and contacting the student, parent and/or school.
- The teacher will mark and return assignments in a timely manner, and provide personalized feedback to the student, and/or parent regarding the student's academic process.

The Role of the Parent:

- Parents provide the appropriate hardware and software. (e.g. internet access, a Pentium processor and a CD-ROM)
- Parents supervise the students at home and may review the assignments with them.
- Parents may also communicate with the instructor by calling or using e-mail.

What Resources are available?

Students have access to all printed material, videos, and computer software available through their local schools, Manitoba Education and Youth and InForm Net. Students will also have access to their teacher and the Program Director of InForm Net.

How are InForm Net Students Evaluated?

InForm Net is an online learning experience. In most ways students are evaluated using the same procedures as a regular program. This includes traditional methods such as tests and projects. Evaluation is also based on formal learning demonstrations. Tests and projects are sent via the Web Site or through e-mail. Courses with a mid-term or final exam would be written at a mutually agreed upon location. Provincial testing and exams are written as per the regulations of Manitoba Education and Youth.

InForm Net is an Internet based alternative instructional environment where students participate in online learning experiences to achieve credits in high school courses approved by Manitoba Education and Youth.

Students enrolled in InForm Net will be provided with daily instruction, assignments and evaluation through regular e-mail and web-based interaction with their instructors.

Information for Students Currently Enrolled in a Manitoba High School

How Do Students Benefit?

Through InForm Net, local school divisions can:

- Offer students access to advanced courses or electives that are not taught at the local high school
- Offset teacher shortages, especially in Math and Science
- Offer an Advanced Placement course
- Resolve scheduling conflicts for individual students or small groups of students
- Reduce costs to deliver specific courses to small numbers of students
- Find solutions that respond to the needs of individual learners in unique situations
- Expand service delivery options and curriculum choices for alternative schools
- Gain more flexibility in developing Individual Graduation Plans which are specific to the academic and career interests of all students
- Provide students with technology experiences that are valuable in the transition to university, college, vocational/technical school, or the workforce.

Who Can Participate in InForm Net?

Students enrolled in the Pembina Trails, River East Transcona or St. James School Division, or any other school, or school division, who is willing to grant credits obtained through an InForm Net course.

All interested high school students are encouraged to contact the school counselor or school principal before registering.

Enrollment

Enrollment is open to all students seeking high school coursework. This includes students in public schools, private schools, colony schools, home schooled students, and adults seeking completion of a high school diploma.

Course Fees

\$500 per one-credit course taken in one semester

Number of Courses

InForm Net imposes no limit on the number of courses a student may be enrolled in simultaneously.

Credit

InForm Net does not grant credit, for students, who are currently registered in a Manitoba High School. The credit is granted and posted by the student's high school. InForm Net will grant credits for adult students and students under nineteen, who are not registered in a Manitoba high school.

Staff

All professional staff members are certified teachers.

InForm Net teachers receive special training and education to prepare them for teaching online, and are actively supported throughout the length of the course to ensure that they are successful.

InForm Net staff is available for parent conferences via email or telephone. The Program Director will maintain contact with a representative at the student's school and/or a parent, and will provide updates on progress and discuss appropriate support and encouragement for a student, who appears to be falling behind.

Class Size

InForm Net recommends a maximum of twenty-four students per course. InForm Net courses are based on a classroom model and differ in many ways from independent study courses. Each section of students has a single instructor for the duration of the course. In addition to teacher-to-student interaction, InForm Net courses emphasize student-to-student interaction and group work. Students are able, however, to pace their learning and manage their progress through the course.

Will the School Have to Assign Monitors to InForm Net Students?

No, a school does not have to assign a monitor, but access to a contact person in each school will improve the student's probability of success. Students in InForm Net courses may access their courses at regularly scheduled times during the day, or any time outside of school hours. InForm Net will ask the school for a point of contact, who will be contacted if the on-line teacher has concerns about a student's progress or participation. Communication between the InForm Net teacher and the local school is very important to student success. Schools will receive regular progress reports on students enrolled in InForm Net courses.

Information for Parents

Does A Student Have To Own A Home Computer To Take An InForm Net Course?

No, this is not required. It may be possible for students to do all of their work on school computers. Access to a home computer or a computer in a public library will, however, provide the student with additional study time.

What Help And Support Will Students Receive?

Each student's teacher can be emailed or telephoned for individual help and assistance.

Will InForm Net Teachers Hold Teacher Conferences?

InForm Net teachers will have the option of establishing a "virtual" parent conference via email or phone. However, parents may email the teacher at any time during the course and may also contact the Program Director with questions about a student's progress.

How Do We Know A Student Has Completed His/Her Own Work?

InForm Net teachers will be trained to be alert to clues that might indicate that the student online is not the student who is registered. If the teacher suspects that there is a problem, the local high school, parent and Program Director will be notified and appropriate action will be taken.

What Type Of Student Should Take An InForm Net Course?

InForm Net places priority on the involvement of the school counselor, and/or other appropriate academic advisors in selecting candidates for and advising interested students about participating in InForm Net courses. Taking a course online requires personal discipline and good time management. Students should also be comfortable using the Internet and e-mail. Students may expect to spend more time taking an InForm Net course than they typically devote to a traditional high school class.

Online courses appeal to a wide range of students and may assist those students not currently achieving in the regular high school program. InForm Net courses have been used very successfully with students in alternative school situations. The likelihood of student success is related to the student's current motivation, learning style, and the level of support and encouragement required to keep them engaged and on-task. InForm Net staff is available to consult with counselors about the applicability of online learning for individual students or small groups of students.

Students in at-risk situations have been very successful in InForm Net courses. The potential of online learning to boost these students' achievement should not be overlooked. Again, it depends upon the individual student.

How Many InForm Net Courses Can A Student Take In One Semester?

This decision is made in consultation with the student, parent and their local high school.

Will InForm Net Be Open For Summer School Courses?

InForm Net has offered an on-line Summer School program since 1999. InForm Net plans to offer courses during the summer of 2004. A complete list will be mailed to schools in the spring.

Please note that these courses are offered for students who were not successful in the regular high school program. A student must have received a minimum mark of 35% to be eligible for summer school.

How do students register for InForm Net courses?

Students can register through their local high school, by phone, fax and on-line.

Online Courses Offered

Senior 1

ELA 10F

The specific outcomes for this course include:

- * The exploration of thoughts, ideas, feelings and experiences;
- * The comprehension of and ability to respond critically to literature;
- * The management of ideas and information;
- * The enhancement of the artistry of communication.

The above goals will be met via the study of a variety of literary forms and genres in which students will be afforded the opportunity to express themselves.

Senior 1 Mathematics (10F)

Unit A. Mathematical Reasoning (integrated throughout the course)

Unit B. Statistics

Unit C. Polynomials

Unit D. Spatial Geometry (or Transformational Geometry)

Unit E. Linear Relations

Unit F. Similarity & Congruence (removed from course)

Unit G. Probability

Unit H. Powers and Exponents

Unit I. Trigonometry

Unit J. Measurement (removed from course)

Unit K. Transformational Geometry (or Spatial Geometry)

Science 10F

The Senior 1 Science program is designed to support and promote the vision for scientific literacy as articulated in the Pan-Canadian Science Framework (1997). Manitoba's student learning outcomes are based on those found in this document, and will be fully implemented in September, 2001. The curriculum is built upon five foundations for scientific literacy including:

- a. Nature of Science and Technology
- b. Science, Technology, Society, and the Environment (STSE)
- c. Scientific and Technological Skills and Attitudes
- d. Essential Science Knowledge
- e. Unifying Concepts

This Senior 1 Science program contains four clusters, or topics:

- * Reproduction - an essential biological mechanism for the continuity and diversity of species.
- * Atoms and Elements - builds on the particle theory of matter introduced in previous grades
- * Nature of Electricity - conceptual development of the particle model of electricity underlies an understanding of electrostatics and current electricity
- * Exploration of the Universe - observational astronomy and issues surrounding space science and technology

Social Studies 10G

This course contains 6 modules, designed to help students understand the benefits and challenges of living in Canada. Each module contains a series of lessons, that involve students as thinking citizens who are encouraged to use their knowledge to examine issues and offer personal insights into dealing with them. These modules are:

- Our system of government
- Law
- Regions and regional disparity
- Multiculturalism
- Economy
- Canada and the World

There will be additional reading provided with each lesson to supplement the textbook as well as students will be encouraged to do research on the Internet to deal with current issues. They will be expected to offer personal views on many of the topics covered.

Each lesson will have written assignments and all of the modules conclude with a major test.

ELA 20F

This course will focus on language, both the use of language for everyday communication plus the appreciation of the artistic use of language. The goals are for the student to improve and refine his/her own use of language through practice in reading, writing, thinking, viewing, speaking and listening, and also for the student to develop an appreciation of language used by others through a study of short stories, novels, poetry, drama, plus selections of non-fiction. Students will read and consider aspects of short stories, novels, plays, poems and non-fiction selections. They will also research topics for presentation, plus will write a variety of pieces including short quick writings, longer edited pieces and experiment with artistic pieces.

Geography 20G

North America: A Geographic Perspective

This course will examine the characteristics of the physical and social environments of North America and analyze the interrelationships and interactions among them. The primary focus will be on Canada and the United States, and a secondary focus will be on the developing world of Central America.

Math 20s Pre-Calculus

These are the topics that will be covered in Pre-Cal 20S. Students will be writing paper tests and exams and sending them to me for assessment. There will be one test for each module and an exam at the end of the course.

Module 1 - Polynomials & Radicals

Module 2 - Rational Exponents

Module 3 - The Straight Line

Module 4 - Trigonometry

Module 5 - Geometry

Module 6 - Factoring and Rational Expressions

Module 7 - Relations, Functions, and Sequences

Module 8 - Probability and Statistics

Computer Science 30S

This is an introductory course into computer programming, written at the Senior 3 (grade 11) level. No previous programming knowledge is required and there is no prerequisite course, but you should be familiar with how to use computer software. In Computer Science 30S (CS30S), you will learn about Variables and Mathematical Expressions, Input and Output, Branching, Looping and Data Files.

InForm Net has selected a number of core optional courses from the Senior 3 and 4 curriculums. The consortium plans to expand the number of available courses over the next few years.

History 30S

This course takes a chronological approach to the history of Canada. It will involve the study, reflection of the analysis of the primary and secondary documents concerning major people and events in the history of our country. There will be an extensive look at the Aboriginal people of Canada and the history and conflict between the French and English in Canada. The first half of the course focuses on events leading up to the confederation of Canada. This includes the take over of Canada by the British War 1812 versus the United States, the rebellions in 1837 in Lower and Upper Canada and the circumstances surrounding the Confederation of the colonies of Canada. The second half of the course will focus on the events after the Confederation including the two world wars and the Prime Ministers that have lead the country since 1867. Time will also be taken to focus on the current challenges that Canadians are faced with.

Math 30S – Pre- Calculus

Senior 3 Mathematics is divided into eight units. Connections will be emphasized among the eight units through out the course. Concepts taught in one unit will be applied to real life applications in other parts of the course.

Below are the units in the course, a brief description of the unit, and their approximate time allotments.

- | | | |
|----------------|---|-----------------|
| Unit A. | Quadratic Functions | 12 hours |
| | -Plot, describe, transform and analyze quadratic data. | |
| Unit B. | Trigonometry | 7 hours |
| | -Studying and analyzing the features of periodic functions. | |

- Unit C. Algebra 20 hours**
-Solving, analyzing and deriving quadratic and other forms of equations.
- Unit D. Analytic Geometry 20 hours**
-Solve problems involving the coordinate plane.
- Unit E. Geometry 15 hours**
-Analyzing the properties of a circles and polygons using paper and pencil or technology.
- Unit F. Consumer Math 12 hours**
-Solve problems regarding types of pay, budgeting, and property tax.
- Unit G. Logic/Proof 12 hours**
-Using the principals of mathematical reasoning to solve and justify problems.
- Unit H. Functions 12 hours**
-Performing operations with functions and composition of functions.

Software Applications 30S

This very practical course teaches students all the basics in computer technology and the information superhighway. By the end of the course students will be effectively using spreadsheets, charting, presentation programs, word processing, basic graphics programs desktop publishing, basic multimedia concepts and communications. They will be competent in the effective use of the Internet, email, downloading, and editing pictures. Creation of Web Pages will also be done. The programs used include Word 8.0, Excel, Publisher, PowerPoint, HTML Editor, various picture editors and Windows 95.

Biology 40S

As with all of the sciences, Biology is highly relevant to our daily lives as it touches upon a wide variety of human endeavors. At the 40S level, we continue to study the main theme of the 30S course, namely homeostasis, and we also introduce an in-depth look at another – evolution.

The course begins with a study of heredity and the functioning of DNA. Knowledge of genetics allows students to understand applications of DNA technology in forensics, gene therapy and agriculture. We then examine how the change in genes leads to evolution, which in turn drove the proliferation in biodiversity studied during the middle portion of the course. Lastly, students then look at how the expanse of living things depends on each other for survival.

Computer Science 40S

A second level course in computer programming, this course is designed for students who enjoyed and were proficient in the topics covered in Computer Science 30S.

The course introduces students to the Java programming language and advanced topics such as algorithm development and comparisons, computer simulations, object-oriented programming and design and database programming techniques.

It is assumed that students have completed Computer Science 30S using a language other than Java.

Math 40S Applied

UNIT A: MATRIX MODELLING.

OUTCOME – Describe and apply operations on matrices to solve problems using technology as required.

A1: - model and solve problems using technology to perform matrix operations of addition, subtraction, and scalar multiplication.

A2: - model and solve consumer and network problems using technology to perform matrix multiplication as required.

UNIT B: VECTORS.

OUTCOME – Solve problems involving polygons and vectors, including 2-D applications.

B1: - use appropriate terminology to describe vectors and scalar quantities.

B2: - determine the magnitude and direction of a resultant vector, using triangle or parallelogram methods.

B3: - model and solve problems in 2-D using vector diagrams and technology.

UNIT C: PERSONAL FINANCE.

OUTCOME – Design or use a spreadsheet to make and justify financial decisions.

C1: - design or use a financial template to allow users to input their own variables.

C2: - analyze the costs and benefits of renting or buying an increasing asset under different circumstances.

C3: - analyze the costs and benefits of leasing or buying a decreasing asset under different circumstances.

C4: - analyze an investment portfolio applying such concepts as interest rate, rate of return and total return.

UNIT D: PROBABILITY.

OUTCOME – Solve problems based on the counting of sets, using techniques such as the fundamental counting principles, permutations and combinations.

D1: - Solve pathway problems, interpreting and applying any constraints.

D2: - use the fundamental counting principle to determine the number of different ways to perform multi-step operations.

D3: - construct a sample space for two or three events.

D4: - solve problems using the probabilities of mutually exclusive and complementary events.

D5: - classify events as independent or dependent.

UNIT E: VARIABILITY AND STATISTICAL ANALYSIS.

OUTCOME – Use normal and binomial probability distributions to solve problems involving uncertainty.

E1: - find the population standard deviation of a data set using technology.

E2: - use z-scores and z-score tables to solve problems

E3: - use the normal distribution and the normal approximation to the binomial distribution to solve problems involving confidence intervals for large samples.

UNIT F: DESIGN AND MEASUREMENT.

OUTCOME – Analyze objects, shapes, and processes to solve cost and design problems.

F1: - use dimensions and unit prices to solve problems involving perimeter, area, and volume.

F2: - solve problems involving estimation and costing for objects, shapes, or processes when a design is given.

F3: - design an object, shape, layout or process within a specified budget.

F4: - use simplified models to estimate the solutions to complex measurement problems.

UNIT G: APPLICATIONS OF PERIODIC FUNCTIONS.

OUTCOME – Generate and analyze cyclic, recursive, and fractal patterns.

G1: - describe periodic events, including those represented by sinusoidal curves, using the terms amplitude, period, maximum and minimum values, vertical and horizontal shift.

G2: - collect sinusoidal data and graph the data using technology and represent it in equation form.

G3: - use best-fit sinusoidal equations, and their associated graphs, to make predictions.

UNIT H: SEQUENCES.

OUTCOME – Generate and analyze cyclic, recursive, and fractal patterns.

H1: - use technology to generate and graph sequences that model real-life phenomena.

H2: - use technology to construct a fractal pattern by repeatedly applying a procedure to a geometric figure.

H3: - use the concept of self-similarity to compare and/or predict the perimeters, areas, and volumes of fractal patterns

Math 40S – Pre- Calculus

Our world is changing rapidly, science and technology is advancing at a record pace. The world is becoming a technology and information based society.

To meet these challenges, Senior Years graduates must be mathematically literate. They must understand how mathematical concepts permeate daily life, business, industry, environment and technology. In addition, they must appreciate the usefulness and diversity of mathematics.

Senior 4 Pre - Calculus Mathematics will further develop the students to:

- Understand underlying mathematical features of a problem
- Establish a strategy for solving a problem
- Solve a problem using a variety of techniques
- Work cooperatively with others in problem solving-situations

Senior 4 Pre-Calculus Mathematics will do this by:

- *Doing* mathematics rather than just *knowing* mathematics
- Having broad content applications in many fields
- Using technology and broadening the area in which mathematics is applied
- Instructional settings and strategies that create a climate reflecting the constructive, active view of the learning process

The goals of *Senior 4 Pre-Calculus Mathematics* suggest that students be exposed to varied, interrelated experiences that encourage them to understand and appreciate the role of mathematics in society. The incorporation of these goals into this course will ensure that students gain more mathematical power, which increases their ability to understand issues in a technological society. The goals of this course are as follows:

- Students should learn to value mathematics
- Students should become confident in their mathematical abilities
- Students should become mathematical problem solvers
- Students should learn to communicate mathematically
- Students should learn to reason mathematically and to think critically
- Students should develop proficiency in basic skills and concepts

The curriculum is divided into 9 modules. Concepts taught in one module will be applied to problems and concepts in other parts of the course. The course is

designed for 110 hours of instructional time. This includes time for introducing new material, reviewing, and assessment.

Senior 4 Pre-Calculus Mathematics will be broken down into the following modules (note: Module 9 is optional):

- Module 1: Circular Functions** **18 hrs**
Lesson 1: Degree and Radian Measure
Lesson 2: The Unit Circle
Lesson 3: Special Angles and the Trigonometric Functions
Lesson 4: Solving Trigonometric Equations on a Specified Interval
Lesson 5: General Solution of Trigonometric Equations
Lesson 6: Graphing Circular Functions
- Module 2: Transformations** **16 hrs**
Lesson 1: Translations
Lesson 2: Horizontal and Vertical Stretches
Lesson 3: Symmetry, Reflections, and Inverses
Lesson 4: Graphing Reciprocals
Lesson 5: Graphing Absolute Values
Lesson 6: Practice with Transformations
Lesson 7: Transformations with Trig Functions
- Module 3: Trigonometric Identities** **12 hrs**
Lesson 1: Trigonometric Identities I
Lesson 2: Trigonometric Identities II
Lesson 3: Sum and Difference Identities I
Lesson 4: Sum and Difference Identities II
Lesson 5: Double Angle Identities
- Module 4: Exponents and Logarithms** **16 hrs**
Lesson 1: Exponential Functions
Lesson 2: Solve Exponential Equations
Lesson 3: Logarithmic Functions
Lesson 4: Logarithmic Theorems I
Lesson 5: Logarithmic Theorems II
Lesson 6: Exponential and Logarithmic Equations I
Lesson 7: Exponential and Logarithmic Equations II
Lesson 8: Natural Logarithms
Lesson 9: Applications of the Exponential Function
- Module 5: Permutations, Combinations, Binomial Theorem** **15 hrs**
Lesson 1: Counting Principles

Lesson 2: Permutations with Repetitions and Restrictions
Lesson 3: Circular Permutations
Lesson 4: Permutations with Case Restrictions
Lesson 5: Combinations
Lesson 6: Binomial Theorem
Lesson 7: Permutations, Combinations, and Binomial Theorem

Module 6: Conics **11 hrs**
Lesson 1: Parabola
Lesson 2: Circle and Ellipse
Lesson 3: Hyperbola

Module 7: Probability **15 hrs**
Lesson 1: Sample Spaces
Lesson 2: Probability of Independent and Dependent Events
Lesson 3: Combining Probabilities
Lesson 4: Conditional Probability I
Lesson 5: Conditional Probability II
Lesson 6: Probability Using Permutations and Combinations

Module 8: Geometric Sequences **7 hrs**
Lesson 1: Geometric Sequences
Lesson 2: Geometric Series
Lesson 3: Infinite Geometric Series



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