

COURSE DESCRIPTIONS – GRADE 12

TABLE OF CONTENTS

Compulsory Courses

- ELA –One of:
 - Comprehensive Focus 40S
 - Literary Focus 40S
 - Transactional Focus 40S
- Mathematics –One of:
 - Applied Math 40S
 - Essentials of Math 40S
 - Pre-Calculus Math 40S
- Phys Ed/Health 40F (In/Out)

Elective Courses

- Biology 40S
- Chemistry 40S
- Food and Nutrition 40S
- Global Issues 40S
- Interdisciplinary Topics in Science 40S
- Law 40S
- Music 40S
- Peer Assistance 41G
- Physics 40S
- Visual Arts 40S

GRADE 12 COMPULSORY COURSES

ENGLISH LANGUAGE ARTS- One of:

COMPREHENSIVE FOCUS 40S (1 CREDIT)

Students enrolled in this course focus their studies on traditional academic English skills. A variety of literary genres including poetry, prose, drama and novels as well as non-fictional writing such as journalism are analyzed to assist students in maintaining maturity of thought and judgement. Students are provided with thorough, practical training in essay and other forms of writing, oral communication, cooperative learning, and viewing skills.

The comprehensive focus provides students with the opportunity to explore and produce a broad range of texts. The course is made up of units and projects that may include short story, drama, novel, poetry and media. Students also get involved with a variety of forms of writing including the formal essay. Both individual and cooperative learning are emphasized.

LITERARY FOCUS 40S (1 CREDIT)

This course focuses on those forms of English expression that are imaginative and emotional (eg. novels, poems, short prose, drama). The purpose of this elective is to expand and deepen students' understanding of and appreciation for literary forms in an intellectual way. A variety of forms including journalistic and transactional will be studied, but the emphasis will be on literary and dramatic materials.

TRANSACTIONAL FOCUS 40S (1 CREDIT)

Students will explore the practical or pragmatic uses of the English Language. A variety of texts will be explored with an emphasis on journalism, non-fiction, documentary film, photography and oral communication. This course is recommended for students considering post-secondary studies in science, medicine, engineering or journalism as well as anyone who wants to improve their ability to communicate through reading, writing, listening, speaking, viewing and representing.

MATHEMATICS – One of:

APPLIED MATHEMATICS 40S (1 CREDIT)

The 2000-01 school year was the first year of full implementation of the new Grade 12 Applied Math Program. The curriculum was developed in response to changing mathematical requirements prompted by the increase in the use of technology, not only in the workplace and post-secondary training, but also, in many aspects of day to day life.

The Applied Mathematics 40S curriculum deals with data analysis, spreadsheets, matrix modeling, vectors, personal finance, probability, design and measurement, applications of periodic function, sequences, and data management. Students are required to complete extensive, holistic projects, exercises, and assignments.

ESSENTIALS of MATH 40S (1 CREDIT)

Mathematics is a common human activity. The Consumer Math course is designed to support and promote an understanding that math is:

- A way of learning about the world
- Part of everyone's daily life
- Both quantitative and geometric in nature.

And to study Math encourages:

- Creative thinking,
- Logical reasoning
- Problem-solving skills
- Data analysis skills
- And co-operative interaction among others.

The goal of the course is to have students develop a positive attitude to math and to develop their confidence to use math and to understand and appreciate the contributions made to different cultures and to our civilization.

Topics:

1. Problem Analysis
2. Analysis of Games and Numbers
3. Personal Finance
4. Design and Measurement
5. Government Finances
6. Investments
7. Preparing Income Tax
8. Variation and Formulas
9. Researching a Career
10. Statistics

Text:

Celia Baron, Don Bradford, Angela Kaisser, David Sufrin and Rick Wunderlich, Essentials of Mathematics 12, National Library of Canada Cataloguing in Publication Data, 2003.

A Foundation for Implementation, Senior 4 Consumer Math, Manitoba Education, Citizenship and Youth, 2004.

PRE-CALCULUS MATHEMATICS 40S (1 CREDIT)

Grade 12 Pre-calculus Mathematics (40S) is designed for students who intend to study calculus and related mathematics as part of post-secondary education. It builds on the topics studied in Grade 11 Pre-calculus Mathematics and provides background knowledge and skills for the study of calculus in post-secondary institutions. The course comprises a high-level study of theoretical mathematics with an emphasis on problem solving and mental mathematics. The topics include:

Unit 1: Unit Circle Trigonometry

Unit 2: Trigonometric Identities

Unit 3: Polynomial, Radical and Rational Functions

Unit 4: Transforming & Combining Functions

Unit 5: Graphing Trigonometric Functions

Unit 6: Exponents and Logarithms

Unit 7: Permutations, Combinations & Binomial Theorem

PHYS ED/HEALTH 40F IN (1 CREDIT)

This course is designed with the notion of stressing the importance of physical activity on a person's growth. Also, it is designed with the notion of using movement, fitness, and health instruction to give students the tools to become more passionate about being physically active, healthy people.

Students perform a variety of movement-based activities and games, along with sport play, and fitness to complete their credit. The course evaluation is based on an incomplete, complete system. There are no percentage grades given, but students are required to get 70 percent in order to pass the course. Students are required to change, smile, participate, and sweat. Health assignments are based on discussions, lectures, and exit slips, and revolve around healthy relationships, wellness, nutrition, and substance use/abuse.

Note: Proper gym shoes and a change of athletic clothing is required

PHYS ED/HEALTH 40F OUT (1 CREDIT)

This course is designed as an alternative to the IN Physical Education credit. It is a course that is administered through the school but performed on the students own time. The course revolves around the completion of volunteer hours, designated health assignments, and logging physical activity hours. Typically, this is how the course has run in WCI since it was introduced.

Completion of 7 leadership/volunteer hours- preferably done at WCI, but community volunteering is also accepted

Completion of 10-15 designated health assignments (administered by instructor in charge)

Completion of 70 Physical Activity hours performing three different (SAFE) activities. Safety is stressed because the course is done on their own time.

If a student requires motivation to be physically active, it is recommended they take the IN physed program.

GRADE 12 ELECTIVES

BIOLOGY 40S (1 CREDIT)

The year is divided into four general areas – molecular biology, genetics, evolution and biodiversity. Within molecular biology students will learn about DNA and RNA and how these types of nucleic acids can create the variety of organisms we see on Earth. Within genetics students learn about the fundamentals of heredity. During the evolution unit students will learn how the diversity of living things arose. Finally, biodiversity covers the organization of all living things and offers a closer look at the 5 kingdoms of the world. Students will be introduced to a variety of lab techniques including DNA extraction and dissections.

CHEMISTRY 40S (1 CREDIT)

Grade 12 Chemistry provides anew set of foundations for fostering increased scientific literacy. The curriculum will build upon what students know and are able to do as a result of their studies in Grade 11 Chemistry. 6 main themes are covered and the focus is on students applying the outcomes to real-world applications.

Unit 1: Atomic Structure

Unit 2: Kinetic Theory & Reaction Rates

Unit 3: Chemical Equilibrium

Unit 4: Acids and Bases

Unit 5: Aqueous Solutions

Unit 6: Electrochemistry

EXERCISE SCIENCE 40S

This course is designed to provide students with an in-depth study into the science of human performance. The human body's physiological systems are a complex interconnected framework between the brain and nervous system. The purpose of this course is to give students a picture of how those physiological systems work together to maximise human performance. Students will use their knowledge of various aspects of exercise science such as biomechanics, kinesiology, human anatomy, fitness testing, injury treatment and prevention, and nutrition to develop a greater understanding of how the interaction between the brain and nervous system leads to mastery in high performance activities

FOOD AND NUTRITION 40S (1 CREDIT)

This is a senior level course on the topics of food and nutrition. Topics covered will include international foods, the world shortage of food, and careers in food and nutrition. Students are expected to be highly independent in the food preparation lab, using the recipe as a guide and allowing for some personal creativity while cooking. Cooking techniques and recipes will continue to become more advanced as the course progresses.

GLOBAL ISSUES: CITIZENSHIP AND SUSTAINABILITY 40S (1 CREDIT)

Students will conduct inquiry into the social, political, environmental and economic impact of a variety of emerging and contemporary issues in the world. Topics include Media, Consumerism, Environment, Poverty, Wealth and Power, Indigenous Peoples, Oppression and Genocide, Health and Biotechnology, Gender Politics, Social Justice and Human Rights, and Peace and Conflict. A component of the course is the planning and implementation of a community based action research project.

INTERDISCIPLINARY TOPICS IN SCIENCE 40S (1 CREDIT)

This course is designed to provide engaging academic alternatives for those students not pursuing post-secondary science, as well as for students already enrolled in the traditional disciplines.

Topics include:

- Nature of Science and Technology
- Science, Technology, Society and the Environment
- Scientific and Technological Skills and Attitudes
- Essential Science Concepts

LAW 40S (1 CREDIT)

This course allows students to obtain knowledge of basic legal principles considered important to everyday living. The course will discuss criminal law, law of torts, contract law, and finally, property, wills and family law.

MUSIC 40S (1 CREDIT)

This course will include an exploration of the concepts of music and performance through skill development in singing and contemporary rock instruments. Students will build their understanding of musical elements, music theory, structure of songs, lyric writing, and chord function. Students will also research aspects of music for real world application, including audio recording and sound editing. The course may include student-led project-based learning activities and content may vary depending on the interests of the class.

PEER ASSISTANCE 41G (1CREDIT)

This course introduces students interested in pursuing a career in "human services" to some of the aspects of this field of work. Students develop an understanding of the skills and abilities required to work in human services. Students gain an awareness of various disabilities through instruction and practicum working with students and disabilities. Through one - on - one tutoring, students will be given an opportunity to put into practice theory taught in the instruction portion of the course.

PHYSICS 40S (1 CREDIT)

Grade 12 Physics is designed to emphasize both the distinctions and relationships between science and technology. Today, most scientists work in industry, where projects are more often driven by societal and environmental needs than by pure research. Many technological solutions have evoked complex social and environmental issues. Students recognize the potential of scientific literacy to inform and empower decision making of individuals, communities, and society as a whole. The course further develops topics from Grade 11 Physics, as well as draws real-world applications into the curriculum.

Topic 1: Mechanics

Topic 1.1: Kinematics

Topic 1.2: Dynamics

Topic 1.3: Momentum

Topic 1.4: Projectile Motion

Topic 1.5: Circular Motion

Topic 1.6: Work and Energy

Topic 2: Fields

Topic 2.1: Exploration of Space

Topic 2.2: Low Earth Orbit

Topic 2.3: Electric and Magnetic Fields

Topic 3: Electricity

Topic 3.1: Electric Circuits

Topic 3.1: Electromagnetic Induction

Topic 4: Medical Physics

VISUAL ARTS 40S (1 CREDIT)

Developing as an Artist

This course is a culmination of the previous three years of art in high school. Theory discussions, and larger projects form the basis of the year. Work from the previous three years is continued and studied in further depth.

Topics include (*tentatively):

Painting on canvas

Longer projects

*Painting roof tiles

*Painting murals