

APPLIED SCIENCE AND MANAGEMENT DIVISION
MINERAL ECONOMICS, MINING LAW AND SUSTAINABILITY
3 Credit Course
Fall, 2014

MINERAL ECONOMICS, MINING LAW AND SUSTAINABILITY

INSTRUCTOR: Mary Samolczyk, M.Sc.

OFFICE HOURS: T/W 12:00 – 1:00pm

OFFICE LOCATION: A2806

CLASSROOM: C1530 (Lect.)
T1090 (Tut.)

E-MAIL: msamolczyk@yukoncollege.yk.ca

TIME: T/Th 4:00 – 5:30 pm (Lect.)
Th 2:30 – 4:00 pm (Tut.)

TELEPHONE: (867) 668-8898

DATES: September 3 – December 19, 2014

COURSE DESCRIPTION

This course examines economic, social and environmental factors affecting the mine cycle. It is presented in three sections. The first section, Mineral Economics, examines world metal markets, project economic feasibility measurements, and mine financing. The second section, Mining Law, introduces Canadian and Yukon legislation impacting the mining industry, including Yukon First Nations land claims agreements. The final section, Sustainability, addresses present and future mineral resource use and development in light of social and environmental factors. This includes a review of Yukon Environmental & Socio-Economic Assessment Board (YESAB) reports on select exploration projects and producing mines in the territory.

PREREQUISITES

Mathematics 12 or Yukon College equivalent (MATH 060); English 12 or Yukon College equivalent (ENGL 090). Prior completion of Mining Industry Overview (GEOL112) is strongly recommended

EQUIVALENCY/TRANSFERABILITY

In progress.

LEARNING OUTCOMES

Upon successful completion of the course, students will have demonstrated the ability to

- Describe the importance and relevance of accurate economic forecasts and financing plans throughout the mine life cycle.

- Assemble cash flow information and determine the economic feasibility of a mineral project.
- Analyze the financial impact of risks associated with a mineral project and carry out cost-analysis calculations.
- Identify Canadian and Yukon laws and regulations pertaining to mineral resource development; particularly in the areas of Yukon First Nation land claims agreements, taxation, and securities law (e.g. NI43-101).
- Recognize sustainability perspectives related to the mineral industry and describe a project's impact on the economy, the environment and society.

DELIVERY METHODS/FORMAT

This course consists of two 90-minute lectures and one 90-minute tutorial period per week. The lecture schedule included in this course outline details the major topics covered and when those topics will be presented throughout the course. Tutorial exercises will be conducted in a classroom setting.

COURSE REQUIREMENTS/EVALUATION

Attendance and Participation

Students are strongly encouraged to attend all lectures and tutorial exercises. Tutorial exercises will be conducted during tutorial periods and relevant materials will not be available outside of designated tutorial hours.

Assignments

Weekly tutorial exercises will be due at the start of the following tutorial section. Students will also be assigned a number of theory assignments for the lecture segment of the course.

Tests/Exams

There will be a midterm and a final exam for this course. Students must pass the final exam to achieve an overall passing grade.

Evaluation

<i>Tests and Assignments</i>	<i>Weight</i>	<i>Dates</i>
Weekly tutorial assignments	40%	Due at the start of each subsequent tutorial section. Twelve assignments @ 3.33 % each.
Midterm exam	10%	Administered during a normal lecture period.
Final exam	30%	During the scheduled final exam period.
Lecture theory assignments	20%	Due one week after assignment handed out. Four assignments @ 5 % each.
Total	100%	

The letter-grading scheme used in this course is the standard Yukon College scheme. Final grades will be rounded up to the nearest decimal place and assigned a letter grade based on this scheme.

REQUIRED TEXTBOOKS/MATERIALS

There is no required textbook. Students will be required to draw on resources from the Yukon College library (e.g. SME Mining Engineering Handbook) and from selected information available on the Internet. Proper usage of Internet resources will be demonstrated in tutorial sections.

PLAGIARISM

Plagiarism is a serious academic offence. Plagiarism occurs when students present the words of someone else as their own. Plagiarism can be the deliberate use of a whole piece of another person's writing, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material. Whenever the words, research or ideas of others are directly quoted or paraphrased, they must be documented according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Resubmitting a paper which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the College.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon College Academic Regulations (available on the Yukon College website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

TENTATIVE LECTURE TOPICS & SCHEDULE

Week	Topic
1	Introduction to mineral economics, mining law and sustainability
<i>Section 1: Mineral Economics</i>	
1 (cont.)	Project management: fundamentals, scheduling
2	Time value of money, discount rate, and inflation
3	Metal supply and demand, metal prices, exchange rates, and cash flow preparation
4	Comparison methods and economic measurements: net present value (NPV), internal rate of return (IRR)
5	Cost of capital and financing: debt, equity
6	Depreciation and taxation: Canada, Yukon
7	Applications in the mine cycle: exploration targeting, mine feasibility, production equipment change
8	Risk analysis: sensitivity, probability Yukon case studies Midterm exam
<i>Section 2: Mining Law</i>	
9	Legal framework in Canada: review of Canada's legislation affecting mining (land tenure, aboriginal rights, environment, taxation)
10	Legal framework in Yukon: First Nations land claims agreements, Placer and Quartz Mining acts, Yukon Environmental & Socio-Economic Assessment Act (YESAA), Yukon Water Act Legal procedures and the Mineral Resource Technologist: Contracts, confidentiality, privacy, code of ethics, standards
<i>Section 3: Sustainability</i>	
11	Sustainability: development of the sustainability initiative, principles to attain a Social License to Operate (SLO) Government sustainability policies; corporate social responsibility (CSR); community initiatives
12	Application of ethical reasoning and principles for Yukon mining: World Bank economic-social-environmental model for extractive industries, review of YESAB assessments
13	Mineral deposit appraisal and feasibility reports: economic, environmental and social considerations for development of mineral deposits
14, 15	Final exam (as scheduled by registrar)