**MECHANICS 12 – COURSE OUTLINE**

The Mechanics 12 course is an experience course that draws on your previous knowledge from past automotive and trades courses to train you in the field of mechanics. The course studies the basics of electrical systems, electronics, starting systems, charging systems, ignition systems, carburetors, with a main focus on fuel injection systems. Wheel alignments and front-end service work is also performed. There are opportunities you to learn any aspect of automotive systems in this course of study, and the course is not limited to the topics mentioned above. Please ask if you would like to learn about something specific and I will do my best to cover it. You will learn to use various pieces of shop testing and diagnostic equipment. Related practical applications involve disassembly, inspection, necessary repairs, and reassembly of unit components. Accuracy and quality workmanship is emphasized at the grade 12 level.

The contract system used in Mechanics 12 is this: Attend class daily, participate in class, Be safe, complete all assignments, obtain acceptable grades on theory and practical exams, and you will succeed in this course. I am here to help you pass the course with the best grade that you can achieve. I will be available to discuss your work, assignments, and any problems that should arise in class by making an appointment with me or by dropping by the automotive shop when a class is not in session. All of your assignments will have due dates, and must be completed before the end of each term to earn marks.

STUDENT ATTENDANCE

As is the case with all Mechanics courses, attendance is mandatory. I expect you to be here every day on time with the necessary equipment, unless special arrangements have been made ahead of time (doctor’s appointment, field trip for another class, athletics tournament, etc.). Mechanics 12 has been designed as both an experience and a theoretical course. Each day, new material relevant to your growing awareness of automobiles and their care and maintenance will be covered. As the majority of practical work and demonstrations on car maintenance utilize special tools and equipment that is not readily available to you outside of school, it is vital that you attend class on a regular basis.

If you will be absent from class for any reason, please have your parent/guardian contact the school and request to leave a message in my mailbox (250-338-9262) or e-mail me (jared.cloutier@sd71.bc.ca). If you intend to participate in a school field trip for another course or will be away for another school-related reason, please let me know ahead of time to make arrangements for the work you will be missing.

SHOP CLOTHING

Mechanics 12 is a hands-on course. Coveralls are required in order to participate in Mechanics 12. You will not be permitted to participate in shop activities unless you are wearing coveralls…..consider coveralls to be your team jersey! If you don’t have your jersey, you can’t play in the game. If you need to purchase coveralls, please see me for suggestions on where to get them. Coveralls can be cleaned at the shop weekly on Fridays, however make sure you can identify your own pair of coveralls once they are washed. Shoes must be worn at all times, sandals are not acceptable in the shop. Steel-toed boots are highly advised, as they are an industry standard in the automotive field. Since our shop is small, it will sometimes be necessary to work outdoors, but undercover. It would be advisable for you to come to class equipped for this type of work. Warm socks, shoes or boots, and sweaters or jackets will make the outside work more enjoyable. Do not wear expensive clothes or shoes to class. In the interest of safety, students with long hair will be required to tie it back, hanging jewelry must be removed, and cell phones and MP3 players are not allowed to be used in the shop or the classroom.

AREAS OF EVALUATION

There will be five areas of evaluation that will make up your term and semester marks. These areas are:

1) Practical shop work & labs 25%

2) Quizzes & Tests 30%

3) Written assignments 10%

4) Participation, attitude, behaviour, employability skills 25%

5) Work log/time sheet 10%

*1. Practical Shop Work and Labs*

There will be a variety of mechanical experiences open to you in Mechanics 12. These mechanical experiences may be covered through work on actual cars or labs set up within the shop. The quality of your shop work along with the number of shop jobs and labs you complete will determine your performance in this area. You should complete as many different shop jobs as possible to give you a well-rounded background of experience.

*2. Quizzes and Tests*

Quizzes and tests will be an indicator to you and myself of your performance in the theoretical part of the course. There will be a test at the end of each major unit of the course, as well as weekly quizzes. If you cannot write a test or quiz on the specified test/quiz days, then arrangements must be made in advance.

*3. Written Assignments*

There will be assignments required during the semester. Completed assignments will give an indication of your ability to work utilizing the available resources. The assignments will enable you to use your newly gained knowledge and experience. All assignments must be neat and legible, and handed in on time.

*4. Participation, Attitude, Employability Skills, and Behaviour in Class*

In the evaluation of your participation, attitude, employability skills, and behaviour, I will subjectively look for the characteristics below. You will also have the opportunity to make yourself on these characteristics near the end of each term.

- A personal pride in your work.

- An attitude maintaining safe work habits at all times.

- The development of a desire and a willingness to become involved in both routine and new, challenging work.

- The development of a desire to learn by using all the available resources including fellow classmates, resource materials, media, and myself.

- You will develop good work habits, which include care and maintenance of shop tools and equipment and proper clean up at the finish of each class period. - You should come to class on time, ready to work, equipped with the necessary tools/materials, whether they be coveralls, notebooks, pens, etc.

*5. Work Log/Time Sheet*

You will be required to keep a daily work log for Mechanics 12. The log will be a daily record of your practical work in class. The log serves several purposes. Firstly, it will help you remember new procedures, new tools, and new experiences. Hopefully it will build your confidence – and give you the opportunity to express yourself. Secondly, it is a record of the work you have accomplished which will be evaluated. The log must be legible, is to be filled out daily, and is due weekly.

COURSE CONTENT

On the following page is a summary of the units and topics to be covered in Mechanics 12. It is subject to change and grow, but will give you a general idea of what you will be learning about this semester. If you would like to learn about a particular topic, please come and talk to me.

**TERM 1**

WEEK 1 – Sept. 2nd to 6th

Intro To The Course, Shop Safety

WEEK 2 – Sept. 9th to 13th

Shop Safety

WEEK 3 – Sept. 16th to 20th

Mechanics 11 Review, Tool Familiarization

WEEK 4 – Sept. 23rd to 27th

Tool Familiarization

WEEK 5 – Sept. 30th to Oct. 4th

Jacking & Hoisting Vehicles

WEEK 6 – Oct. 7th to 11th

Jacking & Hoisting Vehicles

WEEK 7 – Oct. 14th to 18th

Electrical Systems

WEEK 8 – Oct. 21st to 25th

Electrical Systems

WEEK 9 – Oct. 28th to Nov. 1st

Electrical Systems

WEEK 10 – Nov. 4th to 8th

Electrical Systems

**TERM 2**

WEEK 1 – Nov. 11th to 15th

Ignition Systems

WEEK 2 – Nov. 18th to 22nd

Ignition Systems

WEEK 3 – Nov. 25th to 29th

Fuel Systems

WEEK 4 – Dec. 2nd to 6th

Fuel Systems

WEEK 5 – Dec. 9th to 13th

Autobody Unit

WEEK 6 – Dec. 16th to 20th

Autobody Unit, Class Competition

*Winter Break – Dec. 21st to Jan. 5th*

WEEK 7 – Jan. 6th to 10th

Extras

WEEK 8 – Jan. 13th to 17th

Extras

WEEK 9 – Jan. 20th to 24th

Extras

(Extras topics could include: emissions, differentials, drive lines, manual and automatic transmissions, suspension, steering, alignment, etc.)