BAA Recording Arts and Sciences 12

District Name: Coquitlam

District Number: SD #43

Developed by: Gord Hembruff/ Steve Sainas/ Ingrid Gay

Date Developed: October 2004

School Name: Port Moody Secondary / Terry Fox Secondary

Principal's Name: Karen Jensen / Dan Derpak

Board/Authority Approval Date: April 4, 2005

Board/Authority Signature: _____

Course Name: Recording Arts and Sciences

Grade Level of Course: 12

Number of Course Credits: 4

Number of Hours of Instruction: 120

Prerequisite(s): None

Special Training, Facilities or Equipment Required:
It is suggested that the teacher have extensive professional experience rehearsing, performing and recording. In addition, a strong practical understanding and knowledge of how to operate sound equipment will enhance the teaching environment. As well, it would be desirable for the teacher to have extensive knowledge of music history, music business practices and to remain current with this ever changing field of technology.

Course Synopsis:
This is an advanced course to the world of modern studio recording techniques and offers instruction on all aspects of the recording of sound, both in its technical application and its creative musical side. Some of the content covered will be creating recordings using midi, computer "hard disk" multi-track recording, mixing, editing and mastering techniques, in depth knowledge of acoustics, microphones and digital plug-ins and out-board processors such as reverb, distortion, flangers and compressors. This course will help prepare students for a career in music in which knowledge of these skills and applications are very essential. In addition, it will compliment other musical training that can lead to a profession and/or life-long enjoyment.

Rationale:
There have been major changes in the music industry and how we appreciate this art form. This course is designed to offer instruction relating to this new age, which goes beyond traditional music education.

Organizational Structure:

Unit/Topic	Title	Time
Unit 1	Analysis of Sound	10
Unit 2	Basic Equipment Operations	40
Unit 3	Recording Session Strategies (Planning the Session)	30
Unit 4	Project Completion (Finishing the Session – Mix to Master)	30
Unit 5	Making Connections in the Music Business	10
	Total Hours	120

Unit/Topic/Module Descriptions:

Unit 1:**Overview – Analysis of Sound** **10 hours**
Students will receive in depth instruction in the science of sound. Acoustic topics to be covered include frequency, amplitude, reflections, acoustic materials and environments, transmission of sound, analysis of sound wave shapes and how it applies to overtone series, tambre and pitch. Students will apply these concepts in order to complete a recording project that meets professional standards.

Curriculum Organizers: Structure - Analyzing Waveforms
It is expected that the student will:
- predict how a sound travels from an agitated source through a medium to a receiver
- record waveforms are complex, consisting of overtones and a variety of shapes

Curriculum Organizers: Structure - Analyzing and Applying Acoustic Environment
It is expected that the student will:
- assess how sound waves are affected by sound absorption and reflection of different materials and acoustic space and accurately record sounds onto a digital medium
- compare how these are captured in real environments and digital emulations

Curriculum Organizers: Structure - Applying the Technical Aspects of Sound
It is expected that the student will:
- apply the concepts of frequency, hertz, decibels, harmonic distortion, amplitude and phase cancellation in order to record acoustic sounds accurately.

Unit 2:**Overview – Advanced Equipment Operations** **40 hours**
Students will set up and utilize hardware equipment used in the recording studio to create recordings that meet industry standards. This unit will combine theoretical instruction and practical hands-on experience.

Curriculum Organizers: Application of Technology - Microphones
It is expected that the student will:

- apply their understanding of microphone types such as dynamic, condenser, etc.
- compare differences of microphone pick-up patterns such as cardiod, hyper-cardiod, etc. and determine correct application of each in a recording session
- prepare the set up microphone placement before and during recording

Curriculum Organizers: Application of Technology - Mixer
It is expected that the student will:

- determine signal flow, and set up routings, and patch bay
- apply and modify equalization as applied to sound waves
- prepare the set up levels and gain controls
- apply general mixing techniques that apply to musical styles and instrument configuration

Curriculum Organizers: Application of Technology - Signal Processors
It is expected that the student will:

- apply a variety of processing equipment including reverb, delay, gating, compression, chorus, flanging, distortion, looping, and sampling to enhance recording

Unit 3: **Overview: Recording Session Strategies (Planning the Session) 30 hours**
Students will learn how to plan the entire recording session from when the session will take place, who will perform, when will they perform, what equipment is needed, how long the session will last, who is the recording engineer, who is producer, who will do final mix down.

Curriculum Organizers: Context - Assessing Resources (Personal)
It is expected that the student will:

- assess how many musicians are required
- determine the order of recorded performance
- determine the various roles of engineer, producer and assistants

Curriculum Organizers: Context - Determine Resources (Physical)
It is expected that the student will:

- determine what equipment is needed ie: number and type of microphones, acoustic isolation, monitor equipment and general accessory equipment needs
- create a comfortable recording environment

Curriculum Organizers: Context - Determine Resources (Technical)
It is expected that the student will:

- apply proper microphone placement
- assess and modify and/or correct for phase cancellation, acoustic bleeding, ground loops, and other distortions
- deduce how to troubleshoot and repair minor problems

Unit 4: **Overview: Project Completion (Finishing the Session – Mix to Master) 30 Hours**
Students will apply the art of mixing down and mastering to final project.

Curriculum Organizers: Context - Artistic Considerations
It is expected that the student will:

- determine musical placement of sounds in accordance to stylistic considerations
- create a variety of mixes using contrasting levels and placements
- determine which mix sounds best and mix it down to a two track stereo master

Curriculum Organizers: Application of Technology - Technical Considerations
It is expected that the student will:

- apply the effect of panning, compression and other external affects on the final mix
- apply the technical process of mixing to a two-track master

Unit 5:**Overview – Making Connections to the Music Business 10 Hours**
Students will apply information pertaining the music recording industry to network with existing associations.

Curriculum Organizers: Context - Copyright Laws
It is expected that the student will:

- analyze and apply Canadian copyright law and how it pertains to the recording industry and
- debate the present ethical issues regarding the distribution of recorded material

Curriculum Organizers: Context - Marketing and Publishing
It is expected that the student will:

- assess and contact local music publishing houses
- assess and apply independent music distribution practises

Curriculum Organizers: Context - Making Connections
It is expected that the student will:

- apply strategies for networking with other musicians

Instructional Component:

- direct instruction
- indirect instruction
- interactive instruction
- demonstration
- group work
- research
- practical application
- review of own and other recordings
- modelling

Assessment Component:

- Effective formative assessment via:
    - Clearly articulated and understood learning intentions and success criteria
    - Questions posed by students, peers and teachers to move learning forward
        - Discussions and dialogue
    - Feedback that is timely, clear and involves a plan
    - Students are resources for themselves and others – peer and self-assessment
    - Student ownership

Formative assessment used to adapt learning experiences and inquiry plans on an on-going basis to meet specific learning goals.

Development, awareness and action, based upon metacognition intended to lead to learner independence and self-coaching.

Summative Assessment:

Summative assessments will be determined as students demonstrate proficiency/mastery toward particular learning outcomes. Summative assessments and final grades will reflect the following:

- Students will work collaboratively with the teacher to determine summative achievement on assignments and letter grades based upon dialogue, and evidence of learning
- Behaviour and work habits will NOT be included when determining letter grades
- Marks will not be deducted for late work
- Extra credit and bonus marks will not be awarded
- Plagiarizing will not result in reduced marks/grades –the student will be required to demonstrate their learning authentically
- Attendance will not be considered toward letter grade
- Only individual learning demonstrated –no group marks – will be used to determine grades
- Letter grades will reflect learning towards the learning outcomes articulated above
- Letter grades will be based upon criteria provided/agreed upon toward the learning outcomes
- Letter grades will be determined in relation to the learning outcomes – not in comparison to the achievement of other students
- Poor work will not be assessed towards grades – students will only be assessed on quality work
- Professional judgment and evidence will be used to determine final letter grade in consultation with the student
- Zeros will not be assigned to missed assignments – all required assignments must be completed
- Formative or practice towards learning outcomes will not be included in final grade assessment
- Most recent evidence toward learning outcomes will be used to assign letter grades – learning is not averaged over time

Learning Resources:
Books

Sound Reinforcement Handbook, Davis and Jones
Modern Recording Techniques, Huber and Runstein
Creative Recording, White
Multi-Track Recording for Musicians, Hurtig

Additional Information:
This course has been successfully running at Port Moody Secondary School since 1993 and at Terry Fox Secondary since 2001.