



COURSE OUTLINE
RRMT 134

Introduction to Salmon Hatcheries and Related Fisheries Practices

45 HOURS
3 CREDITS

PREPARED BY: _____

Gerald Haase, Instructor

APPROVED BY: _____

Shelagh Rowles, Dean AS&M

DATE: _____

DATE: _____

YUKON COLLEGE

Copyright September 2011

All rights reserved. No part of this material covered by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, traded, or rented or resold, without written permission from Yukon College.

Course Outline prepared by Gerald Haase September 2011

Yukon College
P.O. Box 2799
Whitehorse, YT
Y1A 5K4

DIVISION OF APPLIED SCIENCE & MANAGEMENT

School of Science

RRMT 134

COURSE OUTLINE

Fall 2011

Introduction to Salmon Hatcheries and Related Fisheries Practices

INSTRUCTOR: Gerald Haase
OFFICE HOURS: TBA
OFFICE LOCATION: Room A2318
E-mail: ghaase@yukoncollege.yk.ca
PHONE: (867) 668-8831
FAX: (867) 668-8828

COURSE OFFERINGS (Days and Times)

Lectures: Wednesdays 4:00-6:00 pm
Room: A2301
Labs: Thursdays 4:00 – 6:00 on lab days
Lab: McIntyre Incubation Site, DFO lab?

Duration: September 14, 2011 to April 25, 2012

COURSE DESCRIPTION

This course is an introduction to salmon hatcheries and fisheries techniques related to hatchery operations and assessment. Various hatchery techniques will be explored, but the emphasis will be on small-scale salmon incubation practices, using the Northern Research Institute Chinook salmon incubation facility as a model and a venue for practical application of techniques.

LEARNING OUTCOMES

On successful completion of this course students are able to:

- Understand the basic biology of salmonids.
- Understand the reasons for and issues surrounding salmonid hatcheries
- Identify and assess salmon incubation site characteristics
- Understand the procedures for broodstock collection
- Carry out salmon gamete collection and fertilization.
- Monitor and manipulate salmon eggs and maintain a suitable incubation environment.
- Prepare and maintain an environment for rearing juvenile salmon.
- Monitor and report on salmon growth and development, including signs of disease.
- Understand the procedures for marking and releasing salmon fry
- Understand the procedures for monitoring adult salmon returns

- Carry out assessment of released juvenile salmon health and distribution through fry trapping
- Prepare a proposal for funding for a fisheries project connected with a salmon hatchery
- Set up and operate a Classroom salmon Incubation system

DELIVERY METHODS/FORMAT

The course material will be covered through a combination of lectures, labs, field trips and practical application of skills. Readings will be assigned from supplied materials.

PREREQUISITES

Admission to the Renewable Resources Management Program and NOST 215

COURSE REQUIREMENTS/EVALUATION

ATTENDANCE

Attendance at all activities is mandatory. Unexcused absences in excess of 10% of scheduled activities may result in dismissal at the instructor's discretion.

EVALUATION

Marks will be assigned as follows:

Unit Quizzes	20
➤ 2 unit quizzes	
Technical competency	20
➤ checklist of competencies	
➤ skills assessed based on application at the McIntyre site and on field trips	
Lab reports	25
➤ 5 lab reports (incubation systems, fry trapping, water quality, DFO otolith lab, proposal writing)	
Class Participation	5
➤ Attendance (3) and participation in discussion (hatchery issues 2)	
Final Exam	30
➤ will be comprehensive	
Total	100

PLAGIARISM

Plagiarism (academic dishonesty) is a serious academic offence and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it will also result in dismissal from the college.

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to standard procedures (e.g. APA, MLA). The re-submission of a paper for which you have previously received credit is also considered an academic offence.

REQUIRED TEXTBOOKS/MATERIALS

There is no formal text for the course. Readings will be provided.

EQUIVALENCY/TRANSFERABILITY

None.

STUDENTS WITH DISABILITIES OR CHRONIC CONDITIONS

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

SYLLABUS

The major course topics and scheduling are detailed below:

Lectures:

13 lectures are planned over the eight-month duration of the course:

Lecture	Date	Topic
1	Sept 14	Introduction to salmonid biology and life cycles
2	Sept 21	Salmon Hatchery Incubation Systems
3	Sept 28	Brood stock Collection
4	Oct. 5	Egg Takes
5	Oct. 26	Incubation Site Characteristics
	November 2	Quiz #1
6	Nov 9 in computer lab (tbd)	Workshop Proposals and Reports (Conceptual proposal for R&E Oct 5)
7	January	Adult Salmon Return Monitoring

8	January	Hatchery Impacts and Issues
	Feb	Quiz #2
9	Feb	Rearing Juvenile Salmon
10	Feb	Fry Tagging
11	March	Transporting and Releasing Fry
12	March	Fry Trapping
13	End march	Classroom Incubation. Course review and summary

Labs and Field Trips:

Six labs are scheduled during the course and will take place at the McIntyre Salmon Incubation Site (off Mountain View Drive), at Department of Fisheries and Oceans lab on Range Road (DFO), or in the computer lab.

Labs

Date	Topic	Venue	Hours
October 20	Incubation System Operations	McIntyre	2
January	Water Quality for Incubation	McIntyre	2
January	Proposal Writing	YC Computer Lab	2
January	Ageing Salmon – otoliths	DFO Lab?	3
March	Rearing System Operations	McIntyre	2
March or April	Fry Trapping	McIntyre or?	2 and 3 (2 nd required)

Field Trips

Three field trips are scheduled:

Date	Topic	Hours
October 6?	Whse Rapids Hatchery Tour	2
October 15?	Kluane R. Chum Egg Take	8++
October 27?	Whse Rapids – Egg Transfer	2-3