Notice of the Final Oral Examination
for the Degree of Master of Science

of

DANIEL HUDSON

BSc (University of Victoria, 2016)

"K-Theory Correspondences and the Fourier-Mukai Transform"

Department of Mathematics and Statistics

Friday, April 26, 2019
10:30 A.M.
Clearihue Building
Room C118

Supervisory Committee:
Dr. Heath Emerson, Department of Mathematics and Statistics, University of Victoria (Co-Supervisor)
Dr. Ian Putnam, Department of Mathematics and Statistics, UVic (Co-Supervisor)

External Examiner:
Dr. Rufus Willett, Department of Mathematics, University of Hawaii

Chair of Oral Examination:
Dr. Sara Ramshaw, Faculty of Law, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies

Abstract

The goal of this thesis is to give an introduction to the geometric picture of bivariant K-theory developed by Emerson and Meyer building on the ideas Connes and Skandalis, and then applying the machinery to prove a result of Emerson stated, but not proved, in a recent article [8]. We begin by giving an overview of topological K-theory, necessary for developing bivariant K-theory. Then we discuss Kasparov's analytic bivariant K-theory, and from there develop topological bivariant K-theory. In the final chapter we state and prove the result of Emerson.