To successfully complete this examination, the applicant will need to be familiar with the topics identified in this outline. The outline is not intended to be used as the sole study material and may not be all inclusive of topics covered in the exam. See "Pesticide Licensing Guide for Oregon" (available online or by calling 503-986-4635) for details on recommended study material.

It is advisable to bring a small, hand held calculator to the exam session to assist in performing calculations. This exam has 100 questions. A score of 70% is needed to pass the exam.

**Government issued photo identification (such as a driver's license) will be required when you check in for testing.**
1) Environment
   a) Drift
      i) Particle drift
      ii) Vapor drift
   b) Groundwater contamination
      i) Pesticide transport in the environment
      ii) Soil types
   c) Wildlife
   d) Pesticide persistence
      i) Factors influencing persistence
      ii) Processes for degradation

2) Calibration, calculations and equipment
   a) Calibration of spray equipment
   b) Know how to calculate the following based on word problems that provide relevant variables.
      i) Application rate
      ii) Sprayer delivery rate
      iii) Area of a field
      iv) How much concentrate to dilute into spray tank
      v) Miscellaneous problems and combinations of the above.
   c) Best ways to change sprayer output, application rates, etc.
   d) Equipment used in right-of-way applications
      i) Boom-type ground sprayers
      ii) Truck mounted sprayers
      iii) Backpack sprayers

3) Integrated Pest Management
   a) Definition of IPM
   b) Advantages of IPM
   c) Types of control methods
   d) Scouting and monitoring
   e) Economic threshold
   f) Economic injury level

4) Pest characteristics
   a) Common right-of-way weeds
      i) Broadleaf, woody and grass
      ii) Annuals, perennials, biennials
      iii) What chemicals are effective on what weeds
   b) Weeds to know
      i) Be able to identify by picture all of the weeds listed on the “Noxious Weed Policy and Classification System”

5) Safety and handling
   a) Pesticide transportation, storage and disposal
   b) Protective clothing and equipment
      i) General clothing requirements
      ii) Respirator types and uses
      iii) Decontamination and cleanup
c) First aid
   i) Signs and symptoms
   ii) First aid and the label
   iii) What to do in an emergency

6) Pesticide characteristics
   a) Types of herbicides
   b) Formulation types
   c) Adjuvants (what are they used for, types)
   d) Herbicides to know
      i) Growth regulator herbicides
         1) 2,4-D
         2) MCPA
         3) Dicamba
         4) Clopyralid
         5) Picloram
         6) Fluroxypyr
         7) Triclopyr
      ii) Lipid inhibitors
      iii) Amino acid synthesis inhibitors
         1) Chlorsulfuron
         2) Metsulfuron
         3) Sulfometuron
         4) Glufosinate-ammonium
         5) Glyphosate
         6) Imazapyr
         7) Imazaquin
      iv) Seedling growth inhibitors
         1) Dichlobenil
         2) Oryzalin
         3) Pendimethalin
         4) Prodiamine
      v) Photosynthesis inhibitors
         1) Bromacil
         2) Diuron
         3) Tebuthiuron
         4) Hexazinone
      vi) Cell membrane disruptors
         1) Diquat
      vii) Pigment inhibitors
         1) Norflurazon
      viii) Plant growth regulators
         1) Mefluidide
      ix) Miscellaneous
         1) Fosamine
      x) Premixed products
         1) Crossbow – 2,4-D and triclopyr
         2) Krovar IDF – bromacil and diuron
         3) Landmark – chlorsulfuron and sulfometuron methyl
         4) Sahara – diuron and imazapyr
7) Terminology
   a) See glossary of terms in study manual
8) Federal and State laws and regulations
   a) Oregon Revised Statute (ORS) 570
   b) Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
   c) Federal Food, Drug & Cosmetic Act (FFDCA)
   d) Oregon Revised Statute (ORS) 634 & Oregon Administrative Rule (OAR) 603
   e) Worker Protection Standards (WPS)
   f) Occupational Safety and Health Act (OSHA)
   g) Hazard Communication Standards (HCS)
   h) Endangered Species Act (ESA)
9) Label comprehension
   a) The label is the law
   b) Parts of the label including:
      i) Restricted-use vs. general-use
      ii) Precautionary statements
      iii) First aid
      iv) Signal words
      v) Active and other ingredients
      vi) Directions for use
      vii) Storage and disposal
      viii) Be able to answer word problems and calculations based on a sample label