

RISK ANALYSIS

Code 90083: Curricular Year 5th Semester 9th Optional Credits: 2.5 ECTS

Lecturers: Virgílio Almeida (CPP and R), Telmo Nunes

1. Contact hours:

Lectures - 14 h Practical - 14 h Total - 28 h

2. Objectives:

To provide tools for veterinarians working in animal health, veterinary public health or for the food industry to participate at risk assessment activities for specific problems, qualitative and quantitative, and to actively discuss risk management and risk communication.

3. Programme:

Theoretical

Overview of the context and opportunities for risk analysis. Review and reinforcement of the terminology and concepts used in risk analysis: comparison of the systems used by the World Animal Health Organization and the *Codex Alimentarius*. Qualitative *versus* quantitative risk assessment. Data validation. Use/abuse of predictive microbiology. Dose response modelling. Deterministic and stochastic models. Monte Carlo techniques. Uncertainty and variability. Risk management. Risk communication.

Practical

Real case-studies will serve as a basis for reflection and learning about the various methodologies: *Listeria monocytogenes* quantitative risk assessment in national cheeses, risk management during the Portuguese blue tongue epidemic, and risk communication during the Portuguese BSE epidemic. Students will use the R programme to make their quantitative risk assessments.

4. Bibliography:

Presentations and articles provided by the teaching team.

Murray, N., MacDiarmid, S., Wooldridge, M., Gummow, B., Morley, R.S., Weber, S.E., Giovannini, A. & Wilson, D. (2010). *Handbook on Import Risk Analysis for Animals and Animal Products*, Volume 1, 2nd Edition, *Introduction and Qualitative Risk Analysis*. World Animal Health Organization (OIE).

Murray, N., MacDiarmid, S., Wooldridge, M., Gummow, B., Morley, R.S., Weber, S.E., Giovannini, A. & Wilson, D. (2010). *Handbook on Import Risk Analysis for Animals and Animal Products*, Volume 2, 2nd Edition, *Quantitative Risk Assessment*. World Animal Health Organization (OIE).

5. Assessment:

Student's assessment is continuous and it is done online through 2 mini-tests (account for 30% of the final mark, 15% each) concerning the topics presented and discussed during the theoretical and the practical courses, plus a risk analysis (accounts for 70% of the final mark) performed in group (5 students) presented and discussed on the last session.