

NATS 3020 FOOD MICROBIOLOGY AND SAFETY

Credit Points 10

Legacy Code 300859

Coordinator Malik Hussain ([https://directory.westernsydney.edu.au/search/name/Malik Hussain/](https://directory.westernsydney.edu.au/search/name/Malik%20Hussain/))

Description Food safety is rapidly evolving with the emergence of new foodborne diseases, changing disease patterns, evolving approaches to risk analysis and an emerging requirement that food producers, processors, handlers and consumers take shared responsibility for food safety. This subject aims to equip students with the necessary skills to identify, evaluate and control foodborne hazards in order to protect the safety and quality of the food supply and reduce associated risks to human health. Content includes the key elements of food safety and regulation, food contamination, food spoilage agents, foodborne hazards, principles of good hygienic practice and preservation in food production, preparation and distribution.

School Science

Discipline Food Science and Biotechnology

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) NATS 1019 - Scientific Literacy
CHEM 1088 - Introductory Chemistry

Equivalent Subjects NATS 3021 - Food Safety

Restrictions

Successful completion of 60 credit points

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Identify food safety hazards and associated risk reduction protocols to ensure safe food production.
2. Explain the major principles of preservation and the effectiveness of different technologies in controlling foodborne hazards.
3. Apply a sound knowledge of Australian Food Standards to the regulation of food safety and food premises inspection.
4. Monitor and evaluate cleaning and sanitation protocols in commercial food premises.
5. Apply HACCP principles to the identification, evaluation, control and monitoring of hazards in food.
6. Plan appropriate foodborne disease surveillance and outbreak investigation procedures.

Subject Content

Microbial contamination of food
Food spoilage
The effects of food characteristics on spoilage patterns
Foodborne hazards
Principles and methods of preservation
The Hazard Analysis and Critical Control Point (HACCP) approach to Food Safety

Good Hygienic Practice
Cleaning, sanitizing and controlling pests in food operations
Food legislation and administration in Australia
Food safety inspection and auditing
Contaminant monitoring
Food labelling, traceability and food recalls
Risk assessment and analysis
Foodborne disease surveillance

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Literature Review	2,000 words	35	N	Individual	N
Report	1,500 words	35	N	Individual	N
Quiz	3 x 30 minutes	30	N	Individual	N

Prescribed Texts

- Food and Drug Administration. (2012) Bad Bug Book, Foodborne Pathogenic Microorganisms and Natural Toxins. Second Edition. Available online <http://www.fda.gov/downloads/food/foodborneillnesscontaminants/ucm297627.pdf>

Teaching Periods

Spring (2025)

Hawkesbury

Hybrid

Subject Contact Malik Hussain ([https://directory.westernsydney.edu.au/search/name/Malik Hussain/](https://directory.westernsydney.edu.au/search/name/Malik%20Hussain/))

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS3020_25-SPR_HW_3#subjects)