

# NATS 1022 FUNCTIONAL ANATOMY

**Credit Points** 10

**Legacy Code** 401410

**Coordinator** Sam Merlin ([https://directory.westernsydney.edu.au/search/name/Sam Merlin/](https://directory.westernsydney.edu.au/search/name/Sam%20Merlin/))

**Description** From 2020 this subject replaces 400881 - Functional Anatomy. This subject covers in depth the functional anatomy of the musculoskeletal system. Special attention is given to the relationship between form and function, the terminology used to describe human movement and thorough knowledge of the bony landmarks, joints, muscle attachments, innervation, blood supply along with detailed actions of specific muscles and muscle groups. Emphasis is on a practical functional context with the relevance to clinical applications such as surface and imaging anatomy, and the anatomical basis of common injuries. Learning experience intends to stimulate proactive deep approach in learning anatomy motivated by the outcomes driven from specialist work within the Health professions.

**School** Science

**Discipline** Medical Science

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 1 subject

**Pre-requisite(s)** NATS 1009

**Restrictions**

Students must be enrolled in one of the following programs due to limited Wet Anatomy laboratory space: 3733 B Med Sc (ForMortPrac), 3755 B medical Science, 3758 B Advanced Medical Science, 4656 B Health Science, 4658 B Health Sc (Sport & Ex Sc), 4706 B Physiotherapy, 4708 B Podiatric Medicine, 4709 B Podiatric Medicine (Hons), 4711 B Occupational Therapy, 4712 B Occupational Therapy (Hons), 4733 B Physiotherapy (Hons), 6000 Dip Health Sc/B Health Sc, 6002 Dip Sci/B Medical Science, 6042 Dip Science/B Medical Science, 7120 Dip Sci Ext Medical Science

## Learning Outcomes

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

1. Describe and explain bone, joint and muscle tissue types, properties and functions;
2. Identify and describe in detail the muscle attachments, innervations and blood supply of the upper limb including the pectoral girdle;
3. Identify and describe in detail the muscle attachments, innervations and blood supply of the lower limb including the pelvis, and the pelvic girdle;
4. Identify and describe in detail the muscle attachments, innervations and blood supply of the trunk, and the head and the neck;
5. Identify, describe and evaluate the role of muscular activity in these regions;
6. Describe and explain the joint structure and function in these regions;

7. Describe and analyse the range of motion of the joints of the spine and extremities to functional situations.

## Subject Content

The musculoskeletal system, including both the appendicular and the axial skeleton, will be studied in accordance with the following content:

- Language of Anatomy: such as the anatomical position and body movements, anatomical planes, axes, and regions;
- Bones: classifications, features, relative positions, and muscle attachments;
- Joints: classifications, structure and function, ligaments, joint mechanics including the muscles - prime movers and stabilizers;
- Muscles: muscle types, precise attachments, actions and topography;
- Nerves: major plexuses and major branches, functionally relevant muscle-nerve relationships, dermatomes and myotomes;
- Blood supply: arterial supply and venous drainage;
- Problem-based and case-based studies relevant to health professions, including examples of Daily Activities, sport exercises, common injuries, surface Anatomy and medical imaging.

## 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	Mandatory Task
Short Answer	Up to 30 minutes	40	N	Individual	N
Multiple Choice	Up to 1 hour	50	N	Individual	N
Quiz	1-4 weeks	10	N	Individual	N

Prescribed Texts

- Moore, K., Dalley, A. F. & Agur, A. M. R. (2014). Clinically oriented anatomy (8th ed.). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins

Teaching Periods

## Spring (2025)

### Campbelltown

#### Hybrid

**Subject Contact** Sam Merlin ([https://directory.westernsydney.edu.au/search/name/Sam Merlin/](https://directory.westernsydney.edu.au/search/name/Sam%20Merlin/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=NATS1022\\_25-SPR\\_CA\\_3#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS1022_25-SPR_CA_3#subjects))