

LEARN TO UNDERSTAND MOVEMENT

MASTER'S PROGRAMME IN
HUMAN MOVEMENT SCIENCES



LOOKING FURTHER

YOUR PROGRAMME IN A NUTSHELL

The Master's in Human Movement Sciences: Sport, Exercise and Health is a one-year programme that can only be taken on a full-time basis. Besides lectures and seminars, the programme comprises several compulsory practicals. A substantial part of the study load entails self-study, which gives our students some flexibility in combining their studies with a part-time job or other activities.

THE MASTER'S CONSISTS OF:

- Four compulsory courses
- Courses related to the chosen track
- Optional courses
- Research internship

FURTHER OPTIONS

It is possible to take a limited number of courses at another department or university. Furthermore, we offer a limited number of students the opportunity to acquire an accreditation for teaching in Higher Education.

LANGUAGE

The Master's is taught in English. This applies to lectures as well as literature and exams. An exception is the programme 'Teaching in Higher Education', which is taught in Dutch.



LOOKING FURTHER





INTERDISCIPLINARY FOCUS ON MOVEMENT

HOW TO IMPROVE SPORTS AND HEALTH

From the latest developments in sports training to new approaches to rehabilitation, the Master's in Human Movement Sciences provides state of the art insights into the ways in which motor performance can be enhanced. The programme encompasses a large variety of approaches that all add to our understanding of human movement and how it can be influenced. From biomechanics to psychology. From exercise physiology to neurorehabilitation. And from muscle function to motor development. By choosing a focus on either sports or health, you can fine-tune your own profile. With this profound background in the human movement sciences, you will be well equipped to contribute to this fascinating field of study.

RESEARCH INTERNSHIP

The Research Internship is a key part of the Master's Programme: it covers about half of your study load. Each student conducts a research project with a fellow student, supervised by one of our staff members. Since the internship covers such a large part of the programme, the choice of topic strongly characterizes your final profile.



HUMAN MOVEMENT SCIENCES AT VU UNIVERSITY AMSTERDAM

40 YEARS OF EXPERIENCE

For almost 40 years, students and staff of the Faculty of Human Movement Sciences have studied various aspects of human movement. Groundbreaking results include the 'clap skate', which caused a revolution in the world of speed skating. During your research internship, you can play an active role in developing cutting-edge innovations like these.

SMALL SCALE

As a student of Human Movement Sciences, you join a select department that values personal attention. A natural environment for inspiring interactions with lecturers and researchers. The active students' club further enhances the warm and welcoming social climate.

MOVE ACROSS BORDERS

If you wish, you may incorporate an educational stay abroad in your programme. The Faculty of Human Movement Sciences has a vast international network, and participates in several international exchange programmes.

CURRENT RESEARCH TOPICS

MOVE TO THE BEAT

Music often invokes spontaneous movements: we bob our head or tap our foot to the beat. Can rhythms be exploited to enhance rehabilitation and sports performance?

EFFICIENCY IN SPEED SKATING

The profound improvements in speed skating performance over the last decades are not only due to technological innovations. The skaters' efficiency has also improved. Which parameters determine efficiency and how can they be trained?

COPING UNDER STRESS

When police officers use their firearms, they are always under a lot of pressure. How does this influence their shooting behaviour? Can performance be improved by training under elevated psychological pressure? Would such training also be useful in sports situations?

WALKING WITH A PROSTHESIS

Walking with a prosthesis requires more metabolic energy compared to normal, while the gait is less stable. Can we design interventions that improve both aspects simultaneously?

RESEARCH SPECIALIZATIONS

The Master's programme comprises two main tracks: 'Sport' and 'Health'. The tracks are not strictly divided, but have some overlap. This makes it possible to compose the ideal programme for each individual student.

SPORT TRACK

The sport track focuses not only on exercise and muscle physiology, but also on biomechanics and sports psychology. You learn how to model human endurance performance, how muscle activation and muscle properties are related to maximal neuromuscular performance, and which psychological factors determine performance in sports.

HEALTH TRACK

The health track focuses not only on the restoration of motor function within the context of rehabilitation, but also on the understanding of normal and abnormal motor development and developmental disorders in fetuses, newborns and young children. In doing so, various disciplines are addressed, including coordination dynamics, biomechanics, and clinical exercise physiology.

FURTHER SPECIALIZATIONS

TEACHING IN HIGHER EDUCATION

In addition to these tracks, the Master's programme offers a limited number of students (15-20 each year) the opportunity to acquire an accreditation for teaching in Higher Education. This additional programme amounts to 24 credits that can be partially incorporated into the regular Master's programme.

SPORTS PSYCHOLOGY

The Master's programme, when combined with a small number of additional courses, will give you access to the Postgraduate programme for Practical Sports Psychologist@.



WIDEN YOUR PERSPECTIVES WITH...

INTERNSHIPS

Spending part of your studies on an external internship, either in the Netherlands or abroad, is a great opportunity to broaden your horizons and expand your network. Below you will find a couple of examples of recent internships carried out at our department or abroad.

ROBOTIC WALKING IN STROKE PATIENTS

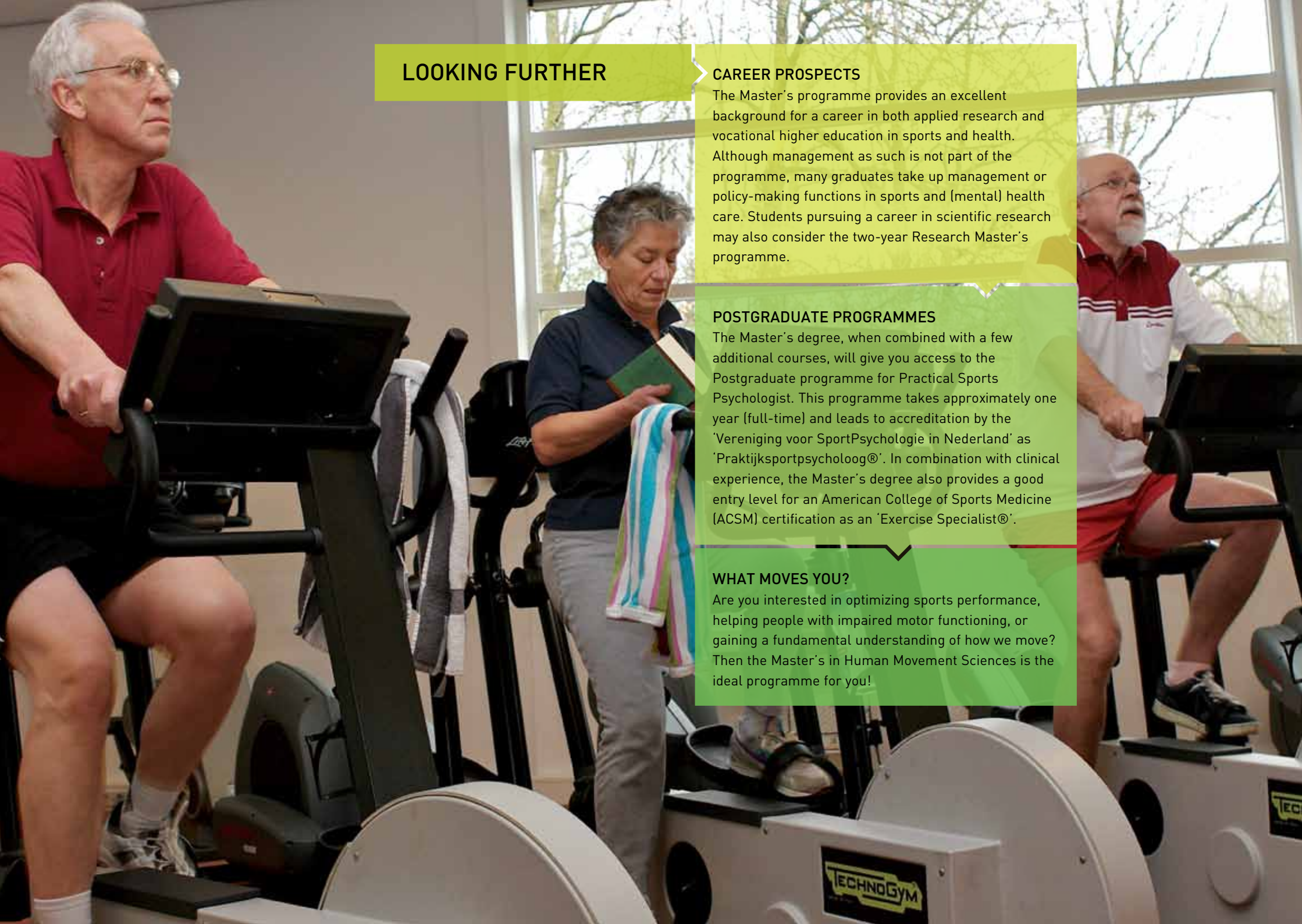
This internship was performed at the rehabilitation centre in Amsterdam. Various methods are available to improve the walking ability of stroke patients. Robotic training devices have several advantages over manually assisted treadmill training, including longer training duration, better patient safety, reproducible gait patterns, and hands-free operation by a single therapist. However, walking in a robotic orthosis also has limitations, such as limited degrees of freedom, possibly leading to changes in the muscle activity patterns. This internship therefore studied the muscle activity of stroke patients during robotic walking. The results were promising, as they showed that robotic walking required less effort and resulted in enhanced activation of paretic muscles.

SPORTS DRINKS FOR COOLING OFF

This internship was performed at Loughborough University (UK), and focused on exercise capacity in a hot environment. Exercise becomes highly inefficient – or even dangerous – if the body's core temperature rises. Sports drinks should therefore be formulated in such a way to ensure the highest rate of hydration. In the internship, the effect of sports drinks on endurance performance in the heat was examined. The carbohydrate content varied between 0 and 6%, but the results showed that these variations did not have any significant effect on performance.

INEKE NDEREND AND CAROLINE WINTERS, MASTER'S STUDENTS OF HUMAN MOVEMENT SCIENCES, HEALTH TRACK

"Last summer we did a clinical internship at the Mayo Clinic in Rochester, Minnesota, USA. During these months at the Cardiovascular Health Clinic we observed doctors and researchers, tested patients during graded exercise tests, and worked in a rehabilitation centre. This was a once in a lifetime experience! We will use this practical experience in our further research projects."



LOOKING FURTHER

CAREER PROSPECTS

The Master's programme provides an excellent background for a career in both applied research and vocational higher education in sports and health. Although management as such is not part of the programme, many graduates take up management or policy-making functions in sports and (mental) health care. Students pursuing a career in scientific research may also consider the two-year Research Master's programme.

POSTGRADUATE PROGRAMMES

The Master's degree, when combined with a few additional courses, will give you access to the Postgraduate programme for Practical Sports Psychologist. This programme takes approximately one year (full-time) and leads to accreditation by the 'Vereniging voor SportPsychologie in Nederland' as 'Praktijkpsycholoog®'. In combination with clinical experience, the Master's degree also provides a good entry level for an American College of Sports Medicine (ACSM) certification as an 'Exercise Specialist®'.

WHAT MOVES YOU?

Are you interested in optimizing sports performance, helping people with impaired motor functioning, or gaining a fundamental understanding of how we move? Then the Master's in Human Movement Sciences is the ideal programme for you!

ADMISSION REQUIREMENTS

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Students with a Bachelor's degree in Human Movement Sciences (either from VU University or RUG) or Health Sciences with a major in Human Movement Sciences (UM) or Medical Sciences with a major in Human Movement Sciences (Radboud University) will be given direct access to the Master's programme. Students with a different Bachelor's degree, from either a university or an institute of higher vocational education (hbo), will usually have to take a pre-Master's programme. See www.fbw.vu.nl for more information or contact the Admission Board (admission2master.fbw@vu.nl).
Language requirements

The Master's is taught in English. Non-Dutch students for whom English is not their first language are required to demonstrate adequate results in an English-language proficiency test:

IELTS: 6.5

TOEFL paper-based test: 580

TOEFL computer-based test: 237

TOEFL Internet-based test: 92-93

JANNEKE VAN DEN BRINK,
MASTER'S STUDENT OF
HUMAN MOVEMENT SCIENCES,
HEALTH TRACK

"I am studying Human Movement Sciences to develop new scientific skills and to learn more about the human body in general. Because of my wide-ranging interests, I am delighted with the broad-based programme at VU University Amsterdam. We not only learn to apply new skills and theoretical ideas, but also to remain critical while doing so."

MORE INFORMATION

WWW.FBW.VU.NL

- Details of the various tracks and profiles
- Information on application and registration
- Practical information for international students

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WWW.VU.NL/PROGRAMMES

For general information
about studying at
VU University Amsterdam

PUBLISHING DETAILS

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**VISIT THE MASTER'S DAY
IN MARCH!**