SUPSI DEASS
Submission to svomp® for Approval as OMT Programme

Master of Advanced Studies in Neuromusculoskeletal Physiotherapy

(MAS Fisioterapia neuromuscoloscheletrica)

Programme 2017-2021

Postgraduate Education in Rehabilitation (Formazione Continua Area Riabilitazione)

SUPSI - DEASS

Programme leader
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This programme description follows the Template for Submission for Approval as OMT Programme of svomp (2019)
1. INTRODUCTION OF THE PROGRAMME

1.1 Background and institutional context of programme

The Scuola universitaria professionale della Svizzera italiana (SUPSI) is the only Italian speaking University of Applied Sciences in Switzerland. Four departments and two affiliated schools build up the institution; DEASS – Dipartimento economia aziendale, sanità e sociale (http://www.supsi.ch/deass) offers BSc and post graduate courses in physiotherapy in Italian in Manno, Ticino, and includes the Physiotherapy BSc in Landquart in German (http://www.supsi.ch/deass/bachelor/physioterapie-landquart.html).

The other departments of SUPSI are:
- DADC – Dipartimento ambiente costruzioni e design (http://www.supsi.ch/dacd)
- DTI – Dipartimento tecnologie innovative (http://www.supsi.ch/dti)
- DFA – Dipartimento formazione e apprendimento (http://www.supsi.ch/dfa)

The affiliated schools of SUPSI are:
- Accademia Dimitri (http://www.accademiadimitri.ch)

Further information on the institution, see Appendix 1, 1A and 1B.

1.1.1 Historical context

The SUPSI DEASS Continuous Education Department for Physiotherapy started in 2012 with the first seminar of the first edition of the Certificate of Advanced Studies (CAS) that is now named Fisioterapia muscoloscheletrica. Gianpiero Capra was asked to start the department activities, as Continuous Education is one of the institutional tasks of any swiss University of Applied Sciences, along with Bachelor courses and research (See Regulation of Advanced Studies Appendix 2). Soon the Department was able to respond to the increasing demand in Evidence Based Practice education programs with high clinical applicability coming from the professional body (Physioswiss https://www.physioswiss.ch/it) and recently also from the Associazione Svizzera Ergoterapia (Swiss Association of Occupational Therapy) (https://www.ergotherapie.ch/startseite).

1.1.2 At present

The Formazione Continua Area Riabilitazione Certificates currently covers the following physiotherapy specialities: musculoskeletal, sport, neurorehabilitation, angiology and paediatrics. Since 2018 the sector includes Ergotherapy / Occupational Therapy courses as well, and was, thus, renamed Area Riabilitazione.

1.1.3 Curriculum development of the Master of Applied Science in Neuromusculoskeletal Physiotherapy (MAS SUPSI in Fisioterapia neuromuscoloscheletrica)

The part time programme is developed according to the Educational Standards of the International Federation of Orthopaedic Manipulative Physiotherapists (IFOMPT) published in 2016. In 2014 Gianpiero Capra, programme leader of the postgraduate education at the department of health SUPSI DEASS, contacted the swiss association for manual therapy, svomp (www.svomp.ch)
to investigate a collaboration with the aim to apply for OMPT recognition of the MAS programme. In June 2019 the first draft of the curriculum document was send to svomp. Svomp educational board provided feedback on the document and Harry Herrewijn, external assessor of svomp visited SUPSI to watch lectures and the practical final examination of the CAS base. Based upon feedbacks of svomp educational board, the curriculum was revised and a second draft was sent in in November 2019. In May 2020, the curriculum was finalised. During the revision process feedbacks of svomp were addressed and special attention was given to restructure the document adding module descriptors of each of the 4 CAS to get a quick overview of the programme. Also, constructive alignment of the learning objectives was given attention. This curriculum document presents the programme specification with tables on the overall structure of the programme, a description of the educational philosophy, the aims of the programme and the assessments on each level. All information on at the operational level such as timetables of the seminars as well as an extensive IFOMPT mapping document, can be found in the appendices 8 and 10 to this curriculum document.

1.2 Overview of the programme

The MAS Fisioterapia neuromuscoloscheletrica consists of 4 Certificates of Advanced Studies (CAS) courses. The various CAS programmes take place in seminars of 2, 3 or 4 days. After completion of CAS 1, 2 and 3, students are eligible for the admission to CAS 4, which completes the Master of Advanced Studies training. The MAS curriculum is designed to be highly flexible allowing the students to immediately apply in clinical practice the newly acquired skills, as they are not asked to stop or reduce their clinical activities in order to participate in the seminars. The University gives the opportunity to students to complete the MAS into a time frame of their choice. Students can decide when to start the following CAS after having certified the previous one. Ideally the MAS can be completed in 4 Academic years. However, students can decide to use more time, thus consolidating their clinical skills. Table 1 gives an outline of the MAS structure.

<table>
<thead>
<tr>
<th>Name of the program</th>
<th>Contact time</th>
<th>Self-directed learning</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS 1 Terapia manuale base</td>
<td>16 days x 8 hours = 128 hours</td>
<td>232 hours</td>
<td>12</td>
</tr>
<tr>
<td>CAS 2 Terapia manuale avanzato</td>
<td>19 days x 8 hours = 152 hours</td>
<td>208 hours</td>
<td>12</td>
</tr>
<tr>
<td>CAS 3 Fisioterapia muscoloscheletrica</td>
<td>24 days x 8 hours = 192 hours</td>
<td>258 hours</td>
<td>15</td>
</tr>
<tr>
<td>CAS 4 Pratica clinica avanzata e supervisione</td>
<td>10 days x 8 hours = 80 hours + 160 hours placement = 240 hours</td>
<td>240 hours</td>
<td>16</td>
</tr>
<tr>
<td>Master thesis</td>
<td>300 hours with tutor support</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Total: 712 hours</td>
<td>Total: 1238</td>
<td>Total: 65</td>
<td></td>
</tr>
</tbody>
</table>
1.3 Presentation of module leaders in relation to the topics of the modules

Table 2 Overview of the SUPSI MAS: presentation of the course contents and module leaders of CAS 1,2,3 and 4.

<table>
<thead>
<tr>
<th>CAS title and ECTS</th>
<th>Overall content</th>
<th>Module lecturers</th>
</tr>
</thead>
</table>
| CAS Terapia manuale base (12 ECTS) | • Biomechanics and arthrokinematics, concave convex rule, fix and mobilise  
• Joints and muscles assessment  
• Introduction to Neurodynamics  
• Pain physiology introduction different pain mechanisms  
• Clinical reasoning: Introduction Red flags in differential diagnosis  
• Introduction to imaging  
• Evidence Based Practice (EBP) – support clinical practice with literature  
• Group work  
• Case reports to document clinical practice (group work) | HES-SO Prof. PT Nicolas Mathieu PT SAMT  
Gianni Maffei PT SAMT  
HES-SO Prof. Anne Gabrielle Mittaz Hager PT SAMT  
Dr. Paolo Marchettini MD  
Francesco Vanini PT SAMT  
Nick Worth PT MSc FSOMM  
Birol Zeybeker PT SAMT – PT OMTsvomp® |
| CAS Terapia manuale avanzato (12 ECTS) | • Biopsychosocial approach to Musculoskeletal Physiotherapy based on ICF criteria  
• Clinical reasoning with special emphasis on screening for yellow and red flags  
• The Maitland approach to MSK assessment with emphasis communication and progression and regression of treatment  
• Pain physiology pain mechanisms in clinical practice  
• Advanced Neurodynamics treatment  
• Advanced imaging for the spine, and search for red flags evidences  
• More complex clinical scenarios  
  * Cervicogenic headache  
  * Shoulder instability  
  * T4 syndrome and thoracic conditions  
  * Lower limb conditions  
  * Chronic LBP  
• EBP – support clinical practice with literature, Case reports (individual work) | Prof. Wim Dankaerts PT OMPT  
Lisa Mantovani PT MSc OMPT  
Dr. Chris McCarthy PT OMPT MACP  
Renée de Ruijter MME, PT OMTsvomp®  
Rolf Walter PT OMTsvomp®  
Pieter Westerhuis PT OMTsvomp®  
Irene Wicki PT MSc PT OMTsvomp®  
Birol Zeybeker PT SAMT – PT OMTsvomp® |
| CAS Fisioterapia muscoloscheletrica (15 ECTS) | • Upgraded clinical reasoning applied to complex clinical cases  
• Application of advanced assessment and treatment with passive mobilizations and manipulations in spine and SIJ conditions | Prof. Fabrizio Benedetti MD  
Prof. Deborah Falla PT PhD  
Marisa Hoffman MSc PT OMT – DVMT - IFOMPT  
Dr. Ian Horsley PT PhD OMT - MMACP |
<table>
<thead>
<tr>
<th>Course</th>
<th>Topics</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pain knowledge and skill in complex clinical scenarios</td>
<td>Dr. Chris McCarthy PT PhD OMPT MACP</td>
</tr>
<tr>
<td></td>
<td>Neurodynamics in distinctive neuropathic conditions</td>
<td>Tom Arild Torstensen PT MSc OMPT</td>
</tr>
<tr>
<td></td>
<td>Advanced assessment and active treatment for chronic cervical pain and WAD</td>
<td>Irene Wicki MSc PT OMTsvomp®</td>
</tr>
<tr>
<td></td>
<td>Advanced active treatment for MSK chronic pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advanced assessment and treatment for the painful shoulder</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EBP – support clinical practice with literature, case report (individual work without tutor support)</td>
<td></td>
</tr>
<tr>
<td>CAS Pratica clinica avanzata e supervisione (16 ECTS)</td>
<td>Research methodology and integration of critical appraisal skills</td>
<td>Gianpiero Capra PT MSc</td>
</tr>
<tr>
<td></td>
<td>MAS thesis: Proposal writing</td>
<td>Dr. Alessandro Chiarotto PT PhD</td>
</tr>
<tr>
<td></td>
<td>Advanced review of spine manipulations theory and practice</td>
<td>Prof. Marco Barbero PT PhD OMPT</td>
</tr>
<tr>
<td></td>
<td>Knowledge and skills in differential diagnosis for extended scope roles</td>
<td>Prof. Annina Schmid PT</td>
</tr>
<tr>
<td></td>
<td>Pharmacology for physiotherapists</td>
<td>Anju Jaggi PT MACP</td>
</tr>
<tr>
<td></td>
<td>Advanced critical review of Neurodynamics</td>
<td>Nick Worth PT MSc FSOMM</td>
</tr>
<tr>
<td></td>
<td>Advanced review of non-traumatic painful shoulder assessed and treated with the biopsychosocial approach</td>
<td>Rolf Walter PT OMT svomp®</td>
</tr>
<tr>
<td></td>
<td>Clinical placement with supervision. Integration of knowledge and skills in a clinical environment. Reflective diary and self-assessment</td>
<td>Renate Wiesner, PT OMT svomp®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lisa Mantovani, MSc, PT OMT DVMT®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Renée de Ruijter, MME, PT OMT svomp®</td>
</tr>
<tr>
<td>Dissertation (10 ECTS)</td>
<td>Dissertation at Master of Advanced Studies level, tutored by SUPSI lecturers.</td>
<td>Gianpiero Capra PT MSc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr. Alessandro Chiarotto PT PhD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Marco Barbero PT PhD</td>
</tr>
<tr>
<td>MAS</td>
<td>Overall organization, lecturer, co-lecturer.</td>
<td>Gianpiero Capra PT MSc</td>
</tr>
</tbody>
</table>
2. PRESENTATION OF THE PROGRAMME

2.1 Educational philosophy that informs the program, its design and delivery

This curriculum is based on the fundamental principles of professional education as described by Gail Jensen (2019). See Appendix 4. The educational philosophy that formed the background of the development of the MAS programme is illustrated in the following reflection on education.

"From the perspective of many experienced educators, effective teaching involves the following: (1) deeply comprehending the information to be taught, (2) being able to transform and present that information in such a way that students “get it”, (3) engaging the student in active collaborative learning experiences, and (4) teaching the student how to learn by constant inquiry and reflection, which lead the student to acquire her or his own new knowledge and comprehensions. Similarly, for students to learn, they must comprehend and transform ideas, information, and belief through inquiry and reflection during learning experiences in which they are active participants and collaborators. Such learning results in a student’s store of information to become a framework of knowledge along with changes in behaviours, perceptions, feelings and interactions. Because teaching and learning are two inseparable sides of the same coin, designating one person as a teacher and another person as the learner is an artificial distinction, much like saying that kinesthetic perceptions and functional movement should be considered as two separate and distinct entities. Just as teachers can shape learners and learning, learners can shape teachers and teaching. For either process to work well, both processes must work in concert. At any given moment, anyone can be the learner or the teacher – patients and families, students participating in formal academic programs or clinical education experiences, health care colleagues, community neighbours, and one’s self” (Jensen, 2013).

The chosen approach in developing the MAS in Fisioterapia neuromuscoloscheletrica is based on constructivism and socio-constructivism, on adult pedagogy and on the enhancement of the skills teaching approach. The training choices rely on the development of reflective practice and an interdisciplinary vision, promoting the building of knowledge through a continuous debate with all partners and colleagues (students, lecturers and health professionals) thus sharing the relevant decisions on the curriculum. Furthermore, the programme enhances direct knowledge sharing with colleagues in outpatients’ clinics, and through the peer review activities implemented during internships. The SUPSI lecturers in charge of the course guarantee the pedagogical tutorship and mentoring (individually or in small groups) during the entire curriculum. This means that tutors are selected by SUPSI staff both for their clinical and pedagogical experience. In order to ensure high quality teaching and constantly update concepts, experts are invited to propose, discuss and share their experience and to give input in the development of the programme. In order to reach the target, to bring all in one line, the programme leader organizes ‘teach-the-teacher’ events on educational topics where all lecturers on the MAS program are invited to participate. This provides a personal and unique personal “life-long-learner” opportunity and turns the teaching experience in SUPSI into a chance for personal and professional growth. An example of such teach-the-teacher opportunity can be found in Appendix 7. Finally, all the seminars of the MAS are open to all lecturers on the MAS programme, allowing them to participate in any seminar they think may useful to update their clinical
and scientific competencies. SUPSI staff regularly contacts lecturers to share the students' feedback and discuss program updating.

2.1.1 Educational methodology

In terms of educational methods, a blended learning approach is chosen. Student and tutors have access to SUPSI's iCorsi e-learning platform (https://www.icorsi.ch). This platform can be used for sharing the material provided by the lecturers, such as pre and post readings for the seminars and for communication with students through the forum. As an institutional policy, courses in SUPSI, BSc and Continuous education, are focussed on building expertise (Epstein and Hundert, 2002).

2.1.2 Development of the MAS in Fisioterapia neuromuscoloscheletrica curriculum

After having set up the framework for the MAS consistent with the pedagogical approach to course development in use in the Swiss Universities of Applied Sciences, the course leader continues working with the lecturers to implement and update the program to maintain a high level of coherence among the different seminars and certificates. The whole process always keeps the learning outcomes as a target. The program leader ensures a continuous flow of information among the lecturers via E-mail, telephone, Skype or Microsoft Teams conferences, and face-to-face meetings and guarantees that the communication takes place among all stakeholders. For example, in terms of quality improvement, lecturers of the different CAS receive students' feedback from the Evasys system. All lecturers are aware of the current procedure of svomp assessment for the OMT title. Feedback received from svomp was shared with the external lecturers, who adapted their program accordingly.

In general, the learning pathway is tailored around the methodical building of expertise and leads the learner to:

- Understand the features of the different clinical situations and learn how to find unique solutions
- Adapt themselves to the different working conditions
- Act with efficacy
- Gain experiential knowledge integrated with scientific knowledge leading to the evolution into competence and expertise
- Comprehend that competencies are built by the individual himself
- Understand that competencies level increases when assessment and self-assessment are taking place in the same educational process
- Feel comfortable to interact with experts in the field during the seminars

For more information on the educational philosophy of the Master of Advanced Studies in Fisioterapia neuromuscoloschelettrica see Appendix 3 “Slides to the introductory lecture of the MAS”.

2.2 Aim of the programme

The aim of the MAS in Fisioterapia neuromuscoloschelettrica is to train clinical experts. The physiotherapist's clinical practice is increasingly challenged by the need of taking care of patients
suffering of chronic pain, with complex and multifactorial problems. Clinicians in this field need to acquire background knowledge of the current evidence regarding these problems and specialized skills in clinical reasoning and patient’s assessment and treatment, to identify the individual needs of the patients and treat them accordingly.

The curriculum includes an extensive training in musculoskeletal physiotherapy, an integrated approach to chronic pain management, in-depth analysis of the research methodology and a clinical internship. The competence profile of the NMSK MAS physiotherapist aims to meet current needs in musculoskeletal physiotherapy, both in clinical practice and management, as well as in research and project management.

Manual skills, history taking, instructional, educational skills and counselling of patients formatively assessed when students discuss their case scenarios with lecturers in both CAS Terapia manuale base and CAS Terapia manuale avanzato and in the clinical placement in CAS Pratica clinica avanzata e supervisione. The level of the integration and discussion around the case reports progresses from simpler nociceptive clinical scenarios to complex chronic multi morbid situations in the Clinica di Novaggio, where the clinical placement takes place. Regarding the level of learning it is expected that students will become more and more independent learners. This is enhanced by the teaching methods and assessment tasks throughout the programme. Information on teaching and assessment methods see the various CAS descriptions and Appendix 8.

In CAS Terapia manuale base the case report should be handed in according to a predefined form. In CAS Terapia manuale avanzato students are given an example of a clinical reasoning form. It is expected that all students adapt this form to their own personal needs, as well as the needs of the individual patient they have chosen to describe. With each clinical case at this level the students formulate a clinical question and perform subsequently a literature search to answer this clinical question. The chosen article can also be linked to the treatment modality chosen with this particular patient. In the CAS Fisioterapia musculoscheletrica the student is autonomous in creating the final case report to obtain the certification. Assessment criteria can be found in more detail in the various CAS description in this document as well as in Appendix 8.

Teaching and learning resources are provided by all lecturers and provided to students on SUPSI’s learning platform iCorsi. All course material and references provided by the various teachers are available upon request with permission of the copyright holders.

2.3 Intended learning outcomes and course description of all 4 CAS

In the following chapters of the curriculum document a module descriptor introduces each CAS, followed by a descriptive part on the intention of the CAS, the course structure, content, lecturers, teaching and learning methods and assessment. References to more detailed information in the various appendices are given. In the appendices translations of all material given to the students in Italian can be found.
2.3.1 Course description

| website | CAS Terapia manuale base |

2.3.2 Course description

| website | CAS Terapia manuale avanzato |

2.3.3 Course description

| website | CAS Fisioterapia muscoloscheletrica |

2.3.4 Course description

| website | CAS Pratica clinica avanzata e supervisione |
# 2.3.5 Master Thesis

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Master thesis of Advanced Studies in Neuromusculoskeletal Physiotherapy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course coordinator</td>
<td>Gianpiero Capra, Teacher and Head of CPD - Rehabilitation Area, SUPSI (<a href="mailto:gianpiero.capra@supsi.ch">gianpiero.capra@supsi.ch</a>)</td>
</tr>
<tr>
<td>Indicative Module Description</td>
<td>The students write their MAS thesis developing the proposal that has been approved in the previous CAS Pratica clinica avanzata e supervisione.</td>
</tr>
<tr>
<td>Indicative Learning Outcomes</td>
<td>None of the students has reached this level yet. SUPSI staff is currently developing the learning outcomes for the MAS thesis.</td>
</tr>
<tr>
<td>Content</td>
<td>To be defined.</td>
</tr>
<tr>
<td>Indicative Summative Assessment Components &amp; Percentage</td>
<td>Thesis marking criteria to be defined.</td>
</tr>
<tr>
<td>Pre-Requisite Recipients and Requirements</td>
<td>The thesis writing and dissertation is for the students that have successfully completed the:</td>
</tr>
<tr>
<td></td>
<td>• CAS Terapia manuale base</td>
</tr>
<tr>
<td></td>
<td>• CAS Terapia manual avanzato</td>
</tr>
<tr>
<td></td>
<td>• CAS Fisioterapia muscoloscheletrica</td>
</tr>
<tr>
<td></td>
<td>• CAS Pratica clinica avanzata e supervisione</td>
</tr>
<tr>
<td>Delivery Pattern</td>
<td>Self-study with in person and distance mentoring by SUPSI lecturers and external experts.</td>
</tr>
<tr>
<td>Contact hours</td>
<td>Upon request, according to the students’ needs, tutors will be available. A maximum of 30 hours per student is estimated.</td>
</tr>
<tr>
<td>Self-study time</td>
<td>250 hours for: pre-course readings, thesis writing, meetings with tutors.</td>
</tr>
<tr>
<td>Course Language</td>
<td>Italian</td>
</tr>
<tr>
<td>Certificate</td>
<td>Master of Advanced Studies Fisioterapia neuromuscoloscheletrica</td>
</tr>
<tr>
<td>Credit Points (ECTS)</td>
<td>10 ECTS</td>
</tr>
</tbody>
</table>
References


2.4 Mapping of content & dimensions of the entire MAS programme edition 2017-2021 according to IFOMPT standards (2016)
### Programme 2017-2021

<table>
<thead>
<tr>
<th>Module / unit:</th>
<th>Module / unit</th>
<th>Module / unit</th>
<th>Module / unit</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS SUPSI Fisioterapia neuromuscoloscheletrica (NMSK)*</td>
<td>CAS Terapia Manuale Base</td>
<td>CAS Terapia Manuale Avanzato</td>
<td>CAS Fisioterapia Muscoloscheletrica</td>
<td>CAS Pratica Clinica Avanzata e Supervisione</td>
</tr>
</tbody>
</table>

X = Teaching and learning related to competencies
Y = Assessment of competencies
Part. = partially fulfilled: 2/3 of the competencies acquired (see detailed scores in Appendix 10) the remaining 1/3 of the competencies will be acquired in the succeeding CAS

| Number of course hours | 360 | 360 | 450 | 480 | 1650 |

**Dimension 1: Demonstration of critical and evaluative evidence-based practice**

- Competencies Relating to Knowledge: X, y
- Competencies Relating to Skills: X, y
- Competencies Relating to Attributes: X, y

**Dimension 2: Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the specialty of OMT**

- Competencies Relating to Knowledge: Part. x, y
- Competencies Relating to Skills: x, y
- Competencies Relating to Attributes: x, y

**Dimension 3: Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the specialty of OMT**

- Competencies Relating to Knowledge: x, y
- Competencies Relating to Skills: x, y
- Competencies Relating to Attributes: x, y

**Dimension 4: Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the specialty of OMT**

- Competencies Relating to Knowledge: Part. x, y
- Competencies Relating to Skills: x, y
- Competencies Relating to Attributes: x, y

**Dimension 5: Demonstration of critical use of a**
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Competencies Relating to Knowledge</th>
<th>Competencies Relating to Skills</th>
<th>Competencies Relating to Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Demonstration of critical and an advanced level of clinical reasoning skills enabling effective assessment and management of patients with NMS dysfunctions</td>
<td>X, y</td>
<td>X, y</td>
<td>X, y</td>
</tr>
<tr>
<td>7</td>
<td>Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS dysfunctions</td>
<td>Part. X, y</td>
<td>X, y</td>
<td>Part. X, y</td>
</tr>
<tr>
<td>8</td>
<td>Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS dysfunctions</td>
<td>X, y</td>
<td>Part. X, y</td>
<td>Part. X, y</td>
</tr>
<tr>
<td>9</td>
<td>Demonstration of a critical understanding and application of the process of research</td>
<td>Part. X, y</td>
<td>Part. X, y</td>
<td>Part. X, y</td>
</tr>
<tr>
<td>10</td>
<td>Demonstration of clinical expertise and continued professional commitment to the development of OMT practice</td>
<td>Part. X, y</td>
<td>Part. X, y</td>
<td>Part. X, y</td>
</tr>
</tbody>
</table>

* A detailed mapping of each CAS is provided in Appendix 10.
2.5 Dimensions according to IFOMPT’s Standard Document (2016)

**Dimension 1:** Demonstration of critical and evaluative evidence informed practice

By the end of the program of study, the successful student will be able to

1. Retrieve, integrate and critically apply knowledge from the clinical, biomedical and behavioural sciences in order to draw inferences for OMT practice, recognizing the limitations of incorporating evidence into practice.

2. Critically evaluate the results of treatment accurately, and modify and progress treatment and management as required using outcome measures to evaluate the effectiveness of OMT.

3. Integrate and apply evidence informed approaches in the presentation of health promotion and preventative care programs.

4. Enhance and promote the rights of the patient to actively participate in the healthcare management taking into account the patient’s wishes, goals, attitudes, beliefs and circumstances.

*The skills are taught:*

1. In the lessons of the first three CAS, during the discussion of cases in the CAS Pratica clinica avanzata e supervisione.

2. In the assessment approach in the first two CAS, and during supervised practice in CAS Pratica clinica avanzata e supervisione.

3. In the MET seminar in CAS Fisioterapia muscoloscheletrica, and in practice under supervision in CAS Pratica clinica avanzata e supervisione.

4. In the CAS Advanced manual therapy, in the biopsychosocial seminar and its assignments and in supervised practice in the Pratica clinica avanzata e supervisione.

*The contents are certified:*

1. Certification case reports in all CAS.

2. Reassessment of patients after the first session in Pratica clinica avanzata e supervisione.


4. Criticism of articles, in the certification of the first two CAS.

**Dimension 2:** Demonstration of critical use of a comprehensive knowledge base of the biomedical sciences in the specialty of OMT

By the end of the program of study, the successful student will be able to
1. Critically apply knowledge of anatomy, physiology and biomechanics to enable evaluation of normal and abnormal function.

2. Critically evaluate knowledge informing pathology, pathogenesis and pain mechanisms underlying mechanical dysfunction of the NMS system.

3. Integrate and apply knowledge of examination procedures and differential diagnosis in the assessment of NMS dysfunction.

4. Critically apply knowledge and advanced clinical reasoning skills to differentiate dysfunction of the NMS system from non-mechanical dysfunction in other systems.

5. Critically apply knowledge of indications, contraindications, precautions and effects to inform best practice in the management of NMS dysfunction.

**The skills are taught:**
1. In the lessons of the first three CAS with increasing difficulty, and used during the discussion of cases in the Pratica clinica avanzata e supervisione.
2. In the assessment approach in the first three CAS, and during supervised practice in the CAS Pratica clinica avanzata e supervisione. In particular, there are two lessons on pain mechanisms in the first two CAS and the notions are used and are the basis on which the CAS Fisioterapia muscoloscheletrica is structured.
3. During the assessment methods studied in the first three CAS, the lesson "Differential diagnosis" is presented in the Pratica clinica avanzata e supervisione.
4. In the CAS Basic and Advanced Manual Therapy, in the CAS Fisioterapia muscoloscheletrica seminars and in supervised practice in the CAS Pratica clinica avanzata e supervisione. In the CAS Terapia manuale base and Terapia manuale avanzato, in the CAS Fisioterapia muscoloscheletrica seminars and in supervised practice in the CAS Pratica clinica avanzata e supervisione.

**The contents are certified:**
1. Case certification reports in all CAS.
2. Certification of the internship tutor for the assessment and re-assessment of patients in practice.

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**Dimension 3:** Demonstration of critical use of a comprehensive knowledge base of the clinical sciences in the specialty of OMT

By the end of the programme of study, the successful student will be able to

1. Critically apply knowledge of the clinical sciences (clinical anatomy, physiology, biomechanics and epidemiology) to enable effective assessment of the nature and extent of patients’ functional abilities, pain and multidimensional needs in
relation to the ICF classification.

2. Demonstrate appropriate selection of assessment techniques and tools through understanding of their diagnostic and evaluative qualities (including: reliability, validity, responsiveness and diagnostic accuracy).

3. Critically apply knowledge of effectiveness and risks to inform OMT interventions and accurately predict prognosis with realistic outcomes.

4. Integrate and apply knowledge of prognostic, risk and predictive factors of relevant health problems to OMT management decisions to ensure the patient can make informed choices.

The skills are taught:
1. In the lessons of the first three CAS with increasing difficulty, and used during the discussion of cases in CAS Pratica clinica avanzata e supervisione. In detail in the CAS Terapia manuale base the application of clinical sciences concerning anatomy, physiology, biomechanics and epidemiology is prevalent, in relation to the assessment. Starting from the CAS Terapia manuale avanzato in the assessment process, the biopsychosocial dimension is added where the patient's needs and functional capacities are integrated in the ICF classification in the assessment process.

2. In the assessment approach in the first three CAS, and during supervised practice in the CAS Pratica clinica avanzata e supervisione. The MAS program has progression in the assessment approach that starts from the biomedical sciences to get to the evaluation of the assessment process itself during the supervised clinical practice.

3. Safety procedures are included in the CAS Terapia manuale base and Terapia manuale avanzato in the CAS Fisioterapia muscoloscheletrica seminars and in supervised practice in the CAS Pratica clinica avanzata e supervisione. In the CAS Terapia manuale avanzato particular emphasis is placed on the prognosis, and so is also the CAS Fisioterapia muscoloscheletrica.

4. In the CAS Terapia manuale base and Terapia manuale avanzato in the CAS Fisioterapia muscoloscheletrica seminars and in supervised practice in the CAS Pratica clinica avanzata e supervisione a strong emphasis is placed on the concept of informed consent and patient participation in the therapeutic / rehabilitative process.

The contents are certified:
1. Case certification reports in all CAS.
2. Certification of the internship tutor for the assessment and re-assessment of patients in practice.

Dimension 4: Demonstration of critical use of a comprehensive knowledge base of the behavioural sciences in the specialty of OMT
By the end of the programme of study, the successful student will be able to

1. Critically apply theory of behaviour and behaviour change to effective OMT assessment and management.

2. Work effectively within a biopsychosocial model of OMT practice to inform assessment and management strategies.

3. Critically evaluate, through sensitivity to behaviour, the influence of the OMT Physical Therapist’s behaviour on a patient’s behaviour and vice versa.

4. Critically use data from outcome measures to evaluate the clinical behavioural aspects of a patient’s presentation.

**The skills are taught:**

1. Starting from the CAS Terapia manuale avanzato in the assessment process, the cognitive behavioural dimension is added in order to integrate the behavioural elements in the assessment and treatment. These elements are further implemented in the CAS Fisioterapia muscoloscheletrica and in supervised clinical practice.

2. The biopsychosocial approach to assessment and treatment is implemented starting with the CAS Terapia manuale avanzato to add more advanced dimensions in the CAS Fisioterapia muscoloscheletrica and be applied during supervised clinical practice.

3. During the CAS Terapia manuale avanzato and in the CAS Fisioterapia muscoloscheletrica we enter into more and more advanced details in the possibility of influencing the treatment plan and the prognosis by means of behavioural modifications integrated to the OMPT approach of Physiotherapy.

4. The results of the treatments are assessed referring on the behavioural aspects in a particularly accurate manner in the CAS Terapia manuale avanzato, but also in the CAS Fisioterapia muscoloscheletrica and in supervised clinical practice.

**The contents are certified:**

1. Case certification reports in the CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.

2. Certification of the internship tutor for the assessment and re-assessment of patients in practice.

**Dimension 5:** Demonstration of critical use of a comprehensive knowledge base of OMT

By the end of the programme of study, the successful student will be able to

1. Retrieve, integrate and critically apply current knowledge of the theoretical basis and evidence base of OMT to inform assessment of the NMS system.
2. Critically evaluate evidence based diagnostic tests and outcome measures to enable a clinical diagnosis and effective evaluation of OMT management.

3. Critically apply current evidence informed theory and knowledge of safe and effective practice of OMT in the assessment and patient-centred management of the NMS system.

4. Integrate, apply and evaluate principles of mobilisation, manipulation, motor-learning, exercise physiology, ergonomic strategies, and other modalities as components of multimodal evidence informed OMT Physical Therapy intervention, to optimize a patient’s functional ability.

**The skills are taught:**

1. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base to the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica there is a clear progression towards a level of complexity and deepening of the theoretical concepts underlying the MSK assessment.

2. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica and finally to the CAS Clinical practice there is a clear progression towards a level of complexity and deepening of the ability to use the outcome measures to assess the effectiveness of the treatment.

3. This objective is present in all CAS of the MAS. From the Terapia manuale base to the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica and finally to the CAS Pratica clinica avanzata e supervisione there is a clear progression towards a level of complexity and deepening of the ability to implement safe and effective therapeutic measures based on the MSK assessment based on the patient.

4. This objective is present in all CAS of the MAS. From the CAS Basic Manual Therapy to the CAS Advanced Manual Therapy to the CAS Fisioterapia Muscoloscheletrica and finally to the CAS Advanced Clinical practice and Supervision there is a clear progression towards a level of complexity and deepening more and more of the ability to put in place passive mobilizations, manipulations, motor learning exercises, activities based on physiological principles and physiotherapy interventions based on OMT concepts in order to optimize the functional capacity of patients.

**The contents are certified:**

1. Practical exam at the end of the CAS Terapia manuale base and CAS Pratica clinica avanzata e supervisione.

2. Case certification reports in the CAS Terapia manuale base, CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.

3. Certification of the internship tutor for the assessment and re-assessment in practice of the patient.

**Dimension 6:** Demonstration of critical and an advanced level of clinical reasoning skills enabling
effective assessment and management of patients with NMS disorders

By the end of the program of study, the successful student will be able to

1. Use advanced clinical reasoning to integrate scientific evidence, clinical data and biopsychosocial factors related to the clinical context.

2. Critically apply the hypothetic-deductive and pattern recognition clinical reasoning processes using the various categories of hypotheses used in OMT, related to diagnosis, treatment and prognosis.

3. Critically evaluate and effectively prioritize clinical data collection to ensure reliability and validity of data and quality of clinical reasoning processes.

4. Integrate evidence informed practice, reflective practice and metacognition into a collaborative reasoning/clinical decision-making process with the patient, carers and other health professionals to determine management goals, interventions and measurable outcomes.

The skills are taught:

1. The CAS Terapia manuale base sets the specific clinical reasoning ability for patients with MSK problems. These skills are subsequently refined in the CAS Terapia manuale avanzato with the integration of the biopsychosocial concept to the patient assessment procedure by placing its problem within the ICF concept.

2. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica and finally to the CAS Pratica clinica avanzata e supervisione there is a clear progression towards a level of complexity and deepening more and more the ability to use the different methods of clinical reasoning during the assessment, the planning of the treatment plan and its implementation and in the formulation of the prognosis.

3. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base to the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica and finally to the CAS Pratica clinica avanzata e supervisione there is a clear progression towards a greater refinement of the ability to collect data during the assessment in an increasingly precise and targeted to the patient's problem.

4. Starting from the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica and finally to the CAS Pratica clinica avanzata e supervisione the student is asked to extend the clinical reasoning process to other professional and parental figures eventually involved without ever losing sight of the scientific references both in the diagnostic phase and in the documentation phase of the treatment results.

The contents are certified:

1. Case certification reports in the CAS Terapia manuale base, CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.

2. Documents produced during the internship and assessed by the MAS lecturers.
3. Certification of the internship by the tutor after the assessment and re-assessment of the patients in clinical practice.

Dimension 7: Demonstration of an advanced level of communication skills enabling effective assessment and management of patients with NMS disorders

By the end of the program of study, the successful student will be able to

1. Demonstrate empathetic, efficient and effective use of active listening skills, questioning strategies, interpersonal skills and other verbal/non-verbal communication skills to obtain reliable and valid data from the patient, avoiding errors of communication to enable effective OMT patient management.

2. Demonstrate efficient and clear written communication, patient record keeping, evidence of informed consent for effective and safe OMT patient management that meets medico-legal requirements.

3. Effectively explain the assessment findings and clinical diagnosis to the patient to enable a collaborative, patient-centred discussion of their management options.

4. Proficiently using an advanced skill, implement effective management plans by educating patients in appropriate therapeutic rehabilitation exercise programmes, and the promotion of wellness and prevention through the education of patients, carers/care-givers, the public and healthcare professionals.

The skills are taught:

1. At first within the CAS Terapia manuale avanzato where the assessment of the patient takes place with active empathic listening and becomes the central theme of the CAS together with the contextualization of its problems according to the ICF. Subsequently all this is put into practice in the CAS Pratica clinica avanzata e supervisione, under the guidance of experienced tutors in this modality of approach to the patient.

2. In the CAS Terapia manuale avanzato and in the CAS Pratica clinica avanzata e supervisione there is a clear progression towards a level of complexity and greater depth of the ability to write a comprehensive and effective report on the patient able to document not only the clinical picture and the treatment put in progress but also the informed consent and the medical and legal precautions put in place during the sessions.

3. During the CAS Terapia manuale avanzato the principles are exposed and the students have a first approach in the activity of effective illustration of the clinical problem to the patient. During the CAS Pratica clinica avanzata e supervisione all these activities will be subject to supervised and peer review activities.

4. From the CAS Terapia manuale avanzato to the CAS Fisioterapia musculoscheletrica and finally to the CAS Pratica clinica avanzata e supervisione the student is asked to implement educational programs for patients for the days between sessions and for maintenance activities to be indicated to patients at the end of the cycle of sessions.
The contents are certified:

1. Case certification reports in CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.
2. Documents produced during the internship and assessed by the MAS lecturers.
3. Certification of the internship tutor for the assessment and re-assessment in practice of the patients.

Dimension 8: Demonstration of an advanced level of practical skills with sensitivity and specificity of handling, enabling effective assessment and management of patients with NMS disorders

By the end of the program of study, the successful student will be able to

1. Critically select and use appropriate practical skills and outcome measures to enable collection of high quality clinical data to inform effective clinical reasoning during patient assessment.

2. Critically select and use as appropriate, a range of therapeutic OMT interventions including patient education, mobilisation, manipulation and exercise prescription with appropriate consideration of treatment timing, dosage parameters and progression of interventions.

3. Apply all practical skills with precision, adapting them when required, to enable safe and effective practice.

4. Critically apply a range of other interventions, as appropriate, to enhance patient rehabilitation (e.g. taping).

The skills are taught:

1. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base to the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica there is a clear progression towards a level of complexity and deepening of MSK clinical skills. These are then applied under supervision in the CAS Pratica clinica avanzata e supervisione.

2. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base to the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica there is a clear progression towards a level of complexity and deepening of the OMPT clinical skills subdivided into their components: mobilization, manipulation and prescriptions of therapeutic exercises. All these measures take into account the appropriate dosage and timing for the clinical situation you are facing. All of this, subsequently, is applied under supervision in the CAS Advanced Clinical practice and Supervision.

3. The best personalization of therapeutic interventions is the subject of all MAS’ CAS.
4. Other treatment modalities for the conditions faced are also taught in the different CAS.

**The contents are certified:**
1. Case certification reports in the CAS Terapia manuale base, CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.
2. Documents produced during the internship and assessed by the MAS lecturers.
3. Certification of the internship tutor for the assessment and re-assessment in practice of the patients.

**Dimension 9:** Demonstration of a critical understanding and application of the process of research.

By the end of the program of study, the successful student will be able to

1. Recognize the need for the development of further evidence in OMT practice and the role of research in advancing the body of knowledge in OMT Physical Therapy.

2. Critically evaluate common quantitative and qualitative research designs and methods.

3. Generate an appropriate research question based on a critical evaluation of current research evidence relevant to OMT practice and NMS dysfunction.

4. Systematically address all ethical considerations associated with research involving human subjects.

5. Effectively execute a research project relevant to OMT practice and NMS dysfunction, selecting appropriate data analysis procedures and disseminating the conclusions of the study.

**The contents are transmitted:**
1. This objective is present in the CAS Pratica clinica avanzata e supervisione, and is the subject of specific lectures.
2. This objective is present in the CAS Pratica clinica avanzata e supervisione and is the subject of specific lectures.
3. This objective is present in the CAS Pratica clinica avanzata e supervision and is the subject of specific lectures and gives rise to the production of the Proposal for the final research project.
4. This objective is present in the CAS Pratica clinica avanzata e supervisione and is put into practice during the production of the Research Proposal.
5. This objective is represented by the final thesis, and is the subject of specific lectures.
The contents are certified:
1. Certification of the CAS Terapia manuale base and of the CAS Terapia manuale avanzato, includes critical review of scientific papers.
2. The Proposal which certifies the research contents for the CAS Pratica clinica avanzata e supervisione.

Dimension 10:
Demonstration of clinical expertise and continued professional commitment to the development of OMT practice

By the end of the program of study, the successful student will be able to

1. Utilize effective integration of in-depth knowledge, current best practice, patient-centered practice, cognitive and meta-cognitive proficiency within OMT clinical practice.
2. Solve problems with accuracy, precision and lateral thinking within all aspects of clinical practice.
3. Utilise sound clinical judgement, evaluating benefit and risk, when selecting OMT assessment and treatment techniques appropriate to the patient’s changing environment and presentation.
4. Critically apply efficient, effective and safe OMT intervention in patients with complex presentations (e.g. multiple inter-related or separate dysfunctions and/or co-morbidities).
5. Produce scholarly contributions to the body of OMT knowledge, skills and measurement of outcomes.

The contents are transmitted:
1. In all CAS of the MAS. From the CAS Terapia manuale base, the CAS Terapia manuale avanzato to the CAS Fisioterapia muscoloscheletrica there is a clear progression to a level of complexity and deepening of MSK clinical skills centered on the patient. These are then applied under supervision in CAS Pratica clinica avanzata e supervisione.

2. This objective is present in all CAS of the MAS. From the CAS Terapia manuale base.
3. Therapy to the CAS Terapia manuale avanzato and to the CAS MSK there is a clear progression to a level of complexity and deepening of OMPT clinical skills by learning how to deal with complex and unusual cases with lateral thinking skills.
4. The best personalization of therapeutic interventions is the subject of all MAS CAS.
5. In different CAS, safe treatment methods and safety procedures are taught during the assessment.
6. The contributions of research methodology, the production of the Proposal and the thesis is aimed at bringing new knowledge to the OMT field of physiotherapy.

**The contents are certified:**
1. Case certification reports in the CAS Terapia manuale base, CAS Terapia manuale avanzato and CAS Fisioterapia muscoloscheletrica.
2. Documents produced during the internship and assessed by the MAS lecturers.
4. Certification of the internship tutor for the assessment and re-assessment of patients in practice.

### 2.6 Relationship between learning outcomes and assessment strategies

**Overview MAS assessment process**
The participant will be awarded the *MAS in Fisioterapia neuromuscoloscheletrica* by reaching the passing mark for each Certificate of the MAS and successful completion of the final dissertation.

The Certificates sequence represents a didactical progression in the andragogic approach to the course development, and the assessment of each Certificate is part of the progression.

*CAS Terapia manuale base* – in this CAS the student is asked to demonstrate the ability to exclude from the treatment program patients whose clinical presentation is not suitable to physiotherapy treatment. Assess and treat appropriately patients affected by musculoskeletal painful condition when the main pain driver is nociception. With a simple search, students are asked to find scientific literature to support the treatment plan, and demonstrate a critical approach to scientific literature reading. Manual handling skills in patient assessment and treatment are assessed with a practical examination. Critical appraisal of literature supporting the treatment choices is assessed by means of a final case report.

SUPSI lecturers, in autonomy and with the suggestions derived from meetings with the CAS Terapia manuale base lecturers that happened both in Bern and Manno, decided to start the program leading to MSK MAS with a simple and “ready to use” way of performing the MSK assessment and treatment. Students are not exposed to simple concepts with the idea that this is everything they need to know but rather that this is the first step to a deeper and wider understanding of the problem and patients’ point of view. The CAS Terapia manuale base 2020 teaching grid (*Appendix 6*) attached here shows that the program is including a 4-hour lecture on pain physiology and pain mechanisms, where all pain mechanisms are taught, and one full day on Neurodynamics where SUPSI lecturers teach the peripheral nerve assessment and its role in the patient assessment and decision making for the treatment techniques. During the whole CAS we continuously explicitly remember to students that this is the first ad easier step to a higher level of clinical practice. Furthermore, well recognised programs, like the IMTA one, are structured in a similar way, with Level 1 including only nociceptive
pain driver, level 2A with the introduction to neuropathy and Neurodynamics that continues at level 2B, and level 3 with full lectures on central sensitisation and patient assessment including all the pain drivers integrated into the biopsychosocial framework.

**CAS Terapia manuale avanzato** – In this CAS the focus lies on Clinical Reasoning within the biopsychosocial framework. Clinical lectures are leading the student to learn how to assess and treat the patient applying the biopsychosocial approach for complex clinical scenarios. The student learns to document assessment and treatment procedures in a precise way. Conscious planning based on hypotheses generation is essential. Complex clinical scenarios, encompass painful conditions dominated by neuropathic pain and central sensitization where pain drivers in isolation or mixed can be found in the same patient. The assessment procedure certifies the students’ newly acquired clinical skills for assessment and treatment and give pertinent feedback. At the end of this CAS the new knowledge is assessed with an MCQ, and a case report submitted individually by each student allowing to assess the skills in clinical reasoning. At SUPSI BSc in physiotherapy students are asked to be able to recognise red and yellow flags and to prepare autonomously the treatment plan. They need to understand if the patient is affected by a neurological or MSK condition and plan the treatment in different ways according to the age and prognosis related to the diagnosed pathology. The clinical records asked to BSc students are strictly related to their specific academic year learning outcomes.

Attached to this report is the Assessment description of this CAS, where requirements of the case reports and literature critical reading are stated. The requirements are clearly not at BSc level for the required items and for the in-depth and literature supported bio-psycho-social analysis of the clinical scenario asked to the students. **Appendix 8.**

**CAS Fisioterapia muscoloscheletrica** – In the CAS Fisioterapia muscoloscheletrica, at the end of each seminar newly specific knowledge is assessed with an MCQ exam. At the end of the course the student is asked to submit a case report showing the integration of newly acquired knowledge and skills during the eight seminars into their treatment plan and intervention. Documentation, search strategies, critical appraisal and integration of relevant literature to the case are evaluated. The Assessment grid of the CAS Fisioterapia muscoloscheletrica is explicitly asking to incorporate into the treatment plan assessment and treatment, procedures taken from the different seminars. The Grid is attached here. The skills needed to write the appropriate Case report were taught in the CAS Terapia manuale avanzato and we ask the student to fully apply them here. **Appendix 8.**

**CAS Pratica clinica avanzata e supervisione** – In this 4th CAS and the assessment has two main focusses. Clinical skills and applied clinical research methodology. The former gets assessed at the end of the clinical placement with a formal clinical practice exam, and applied clinical research methodology is assessed by the production and submission of the Research Proposal for the final master thesis. The Certificate is acquired only by receiving the pass mark for both the learning fields under assessment.

*Master thesis* – the student is asked to deliver the thesis by implementing his/her Proposal submitted for the *Cas Pratica clinica avanzata e supervisione* assessment. Being a Master of Advanced Studies instead of a MSc the written work must be clinically relevant in order to reach the pass mark.

The first step is to assess the practical skills of manual assessment and treatment along with the simple ability to retrieve good quality papers supporting the clinical practice in order to certify the **CAS Terapia manuale base.** The **CAS Terapia manuale avanzato** asks the students to demonstrate
their clinical reasoning skills when facing more complex clinical scenarios with patients affected by complex conditions and multiple pain drivers, they also have to prove their skills to retrieve and criticize the literature related to the clinical scenarios they are treating. The CAS Fisioterapia muscoloscheletrica is run by some of our most experienced and advanced colleagues and brings the students to the state-of-the-art level for the treatment of MSK conditions with complex and mixed presentations. The pass mark is reached upon providing evidences of advanced clinical practice by submitting a case report integrating the knowledge and skills acquired with the 8 seminars of the course. The clinical reasoning and clinical practice have to be supported by a moderate literature search. The assessment of the CAS Pratica clinica avanzata e supervisione is twofold. Students are asked to submit and pass the Master thesis proposal that is including a robust literature review and a clear and detailed description of their project for the final thesis and at the end of the fourth block of clinical placement they have to pass the practical exam with their clinical supervisor. The MAS title is awarded upon reaching the pass mark for their Master thesis where they have to show their research methodology skills applied to the writing of the thesis itself.

3 QUALITY ASSURANCE

3.1 Academic governance of quality assurance

Quality assessment is in place for the whole institution of SUPSI. Constant internal quality assessment is part of the institutional accreditation process, all the lecturers leading MAS programs are asked to review their programs and to participate to peer review sessions with lecturers from other swiss Universities of Applied Sciences. The SUPSI lecturers involved in the MAS program are routinely assessing each Certificate at the light of the results of the exams and after the student’s feedbacks. Please check the process of program and procedures updating described in Appendix 5.

3.1.1 Scientific Committee

SUPSI requires a scientific committee for each of their programs. The MAS scientific committee serves to:

- Give input on scientific updates
- Advice in case of problems among lecturers or students
- Adjust the curriculum in accordance with IFOMPT recommendations
- Advice and inform on training needs from the local stakeholders (Ente Ospedaliero Cantonale, Rhea Ticino, private clinics).

Two annual Committee meetings are proposed as a standard SUPSI engagement. The full list will be available in the first semester 2021.

Members of the scientific commission:

- MD Rheumatologist - Ospedale Civico - EOC Lugano.
  - Diagnosis and treatment of musculoskeletal pathologies, acute and chronic, medical point of view on the MAS program.
- MD Ortopedics and Neurologist, Ospedale San Raffaele Milano, Italia
3.1.2 Students feedback

The course leader receives regular feedback from the students with the EvaSys anonymous software for feedback. EvaSys is an independent external feedback system, which cannot be influenced by SUPSI. SUPSI receives the final report for each CAS feedback. An example is attached here as Appendix 5a. SUPSI randomly samples feedback is from single seminars for quality assessment, see example Appendix 5b.

Students are always asked for feedback at the end of each CAS, preferably after the certification session, in order to avoid any possible pressure on the students. A side effect of this method has been a low number of responses. For IFOMPT – svomp recognition the course leader received comments on this procedure of the external consultant about the low value of feedback with a small number of answers. Based upon this feedback SUPSI changed his methodology and implemented a feedback session embedded at the end of the final seminar. Students fill in an electronic form whilst still in the classroom. This assures to receive feedback from all the participants of the course.

3.2 Demonstration of systematic integration of feedback and feed-forward mechanism and improvement cycles

The MAS project started with the implementation of the CAS Fisioterapia neuromuscoloscheletrica, that was the first CAS in Physiotherapy Continuous Education course. The CAS constantly evolved modifying the program. Feedback from students and the need to update the contents of the seminars were the two leading criteria for the program change. Copies of students’ feedback of former CAS are available upon request.

The program is prepared by the SUPSI course leader in cooperation with SUPSI colleagues and an external lecturer giving constant feedback during meetings (reports can be provided) and Skype conference calls and participating both as lecturer and as active assistant to all the CAS seminars. The external lecturer also provided constant support to students in the periods between the different seminars, meeting them in several pre-seminar meetings as a group or individually. Also, some online coaching was done upon individual request. The vision of an
external lecturer and the feedback that were collected from the students were of great help in preparing the second edition of the CAS that is substantially different from the first one.

The CAS Pratica Clinica avanzata e supervisione first edition started in October 2019, we will use the same criteria to implement changes in that program for future editions.

3.3 Team teaching and ‘teach-the-teachers’ activities

3.3.1 Team-teaching/co-teaching
In almost all modules there is some form of team teaching. Modules are taught by two teachers (for instance the seminar on knee & hip in CAS Terapia manual avanzato with Lisa Mantovani and Rolf Walter); teachers are assisted by assistants (CAS Base one to two lecturers together with support of assistants in clinical practice and the seminar on clinical reasoning, biopsychosocial framework and communication of Renée de Ruijter and Daniele Moretti and two actors portraying patients). This mode of delivery provides the students with the unique opportunity to discuss topics with teachers and assistants alike and obtain feedback on their handling in clinical practice at all times.

3.3.2 Teach-the teacher seminars
Furthermore, in January 2019, the group of SUPSI lecturers have organized a seminar with Tim Mitchel, and invited all undergraduate teachers, lecturers on the MAS and clinical supervisors on the MAS programme to participate, in order to apply and teach the biopsychosocial approach using the Musculoskeletal Clinical Translation Framework (MCTF) as one of the main references in future seminars. Tim Mitchell prepared a special edition for his course, tailored around the lecturers’ needs to embed the MCTF to under- and post-graduate student’s education on assessment and clinical reasoning. During the seminar lecturers exchanged thoughts and ideas how to implement the MCTF into their teaching and coaching of the students.

SUPSI has offered seminars for lecturers from 2013 onwards. The following list indicates topics of these seminars. SUPSI promotes exchange of expertise and new knowledge as well as networking amongst lecturers and students.

SUPSI seminars for lecturers (offered by the Direction of SUPSI)

2013 “Le scritture di cura nella formazione degli studenti del dipartimento"
2013 “Epistemologia della cura”
2014 “L’approccio del coaching all’insegnamento”
2014 “Stress e salutogenesi”
2017 “Giornata della formazione: profili di competenze e professioni all’interno della SUPSI”
2018 “Corso per la Formazione terziaria universitaria” del Servizio didattica e formazione docenti
2019 “Giornata della formazione – Valutazione delle pratiche di insegnamento e apprendimento: pienamente soddisfatti?”
4 APPENDICES

- Appendix 1 SUPSI institutional aims and organigrams
- Appendix 1a SUPSI Ethical code (links to appendix 1)
- Appendix 1b SUPSI Educational agreement (links to appendix 1)
- Appendix 2 SUPSI Regulation for MAS, DAS and CAS
- Appendix 3 Slides to the introductory lecture of the MAS
- Appendix 4 Physiotherapy education
- Appendix 5 Institutional quality assessment
- Appendix 5a Quality assessment Evasys report for CAS
- Appendix 5b Quality assessment Evasys report for NOI seminar
- Appendix 6 CAS TMB 2020 Teaching grid
- Appendix 7 Mitchell SUPSI course program
- Appendix 8 CAS descriptions and CAS assessment
- Appendix 9 References SUPSI MAS-NMSK
- Appendix 10 IFOMPT – Mapping all 4 CAS
- Appendix 11 Agreement MAS MSK from EOC
- Appendix 12 MAS short CVs

4.1 Submission references


