Faculty of Health and Wellness

M.Sc. Osteopathy Curriculum

2024-25

Vision of FHW

- To provide **holistic** health and wellness through **education** and research to the society at large.

Mission of FHW

- To develop innovative ecosystem to build competency amongst the healthcare professionals to provide patient centric holistic solution.
- To create the center of excellence with knowledge, attitude and practice across the fields of healthcare.
- To render customized health care services in an atmosphere of respect to the community.
- To increase community health and wellness by promoting positive healthy lifestyle through educational programs and outreach services.
- To implement preventive and therapeutic knowledge of evolving medical trends and respond with quality research and education.

Program Outcomes (POs) for M.Sc. Osteopathy

The following program outcomes have been identified for M.Sc. Osteopathy

PO1: To have knowledge and skills to support the Osteopathic practice as primary healthcare professionals.

PO2: To maintain and develop expertise throughout their careers with knowledge, skills, and experience.

PO3: To act with honesty and integrity and uphold high standards of professional ethics and personal conduct to ensure public trust in the profession.

PO4: To build a therapeutic relationship between osteopath and patient based on good communication, trust, and confidence.

Program Specific Outcomes (PSO) for M.Sc. Osteopathy

PSO 1: Graduates will be equipped to respond to the health needs of society and clinical situations with care, cantered around the needs of the patients.

PSO 2: Graduates will be caring, proficient and effective in applying clinical skills and knowledge and will remain confident in their ability to respond appropriately in various uncertain clinical situations.

PSO 3: Graduates will be flexible and sensitive when using strong communication skills, both verbal and non-verbal, to inform and reassure their patients; enhance understanding of their problem; generate greater insight into the complexity of their situation, if appropriate; and enable patients to develop a greater capacity to respond to clinical challenges.

PSO 4: Graduates will be able to effectively support patients through the critical application of some or all of the following: using a broad range of Osteopathic techniques to modify how their body functions; educating the patient to adapt and make better use of the resources available to them; helping patients understand and adapt aspects of their behavior and attitudes in order to accommodate their lifestyle changes and challenges.

PSO 5: Graduates will be aware of limits to their expertise while recognising the need to extend their abilities, confidently apply their strengths and collaborate with colleagues and other health care professionals for the benefit of patients. They will also be able to undertake the independent learning required for continuing professional development demonstrating self-direction and originality in problem-solving and autonomy as an osteopathic healthcare practitioner.

PSO 6: Graduates will be able to critically evaluate, interpret and apply current research and methodologies; review data; evaluate outcomes of clinical interventions; engage in research activities.

Program Educational Objectives (PEO) for M.Sc. Osteopathy

The following Program Educational Objectives (PEO) have been identified for M.Sc. Osteopathy

PEO1: To produce a graduate who has the theoretical, practical, and professional competence required to practice as an osteopath.

PEO2: To produce a graduate who has the necessary reflective, self-evaluative and critical thinking skills necessary to be a safe, caring, ethical and effective osteopath.

PEO3: To develop a graduate who has a commitment to lifelong learning and an appreciation and understanding of the importance of research and evidence-based practice to their professional development**.**

PEO4: To prepare a graduate for employment by developing their communication, entrepreneurial, problem solving and clinical skills.

M.Sc. Osteopathy Course Structure					
SEMESTER 1					
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Total Points**
CC-1	Introduction to Osteopathy	MSOP101	4	4T	100
CC-2	Musculoskeletal I	MSOP102	4	4T	100
CC-3	Cranial I	MSOP103	4	4T	100
CC-4	Embryology	MSOP104	2	2T	50
CC-5	Biomechanics I	MSOP105	4	4T	100
	Happiness Connect I	SSC-101	2	1T/1P	50
CC-6	Osteopathy Practice	MSOP 106	8	8P	200
Total Credits of Semester 1			**28**		**700**
SEMESTER 2					

Nature of the Course	Course/Subject	Course Code	Total Credits	Credits	Total Points
CC-7	Musculoskeletal II	MSOP201	4	4T	100
CC-8	Cranial II	MSOP202	4	4T	100
CC-9	Visceral I	MSOP203	4	4T	100
CC-10	Research Methodology and Biostatistics	MSOP204	4	4T	100
CC-5	Biomechanics II	MSOP205	4	4T	100
CC-11	Clinical Practice	MSOP206	8	8P	200
Total Credits of Semester 2			**30**		**700**
SEMESTER 3					
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Total Points**
CC-12	Musculoskeletal III	MSOP301	4	4T	100
CC-13	Cranial III	MSOP302	4	4T	100
CC-14	Visceral II	MSOP303	4	4T	100
CC-15	Integration	MSOP304	4	4T	100
CC-16	Musculoskeletal IV	MSOP305	4	4T	100
CC-17	Clinical Practice	MSOP306	8	8P	200
Total Credits of Semester 3			**28**		**700**
SEMESTER 4					
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Total Points**

CC-18	Musculoskeletal V	MSOP401	4	4T	100
CC-19	Cranial IV	MSOP402	2	2T	50
CC-20	Visceral III	MSOP403	3	3T	75
CC-21	Osteopathic Pediatrics	MSOP404	2	2T	50
CC-22	Integration	MSOP405	4	4T	100
CC-23	Thesis	MSOP 406	6	6P	150
AECC-1	Accessory osteopathic techniques	MSOP 407	2	2T	50
CC-24	Clinical Practice	MSOP 407	8	8P	200
Total Credits of Semester 4			**31**		**775**
INTERNSHIP - 3 Months (350 Clinical Practice Hours)					

1st SEMESTER

PAPER 1: Introduction to Osteopathy

Paper code – MSOP101

Credit points – 4

Unit 1 - INTRODUCTION TO OSTEOPATHY

Course objectives :

- To acquaint the students with the history of osteopathy and the development of its philosophy.
- To introduce the student into the possibilities of palpation as a diagnostic and treatment resource.

Learning outcome:

- Understand the context in which osteopathy has been created.
- Understand the possibilities and limitations of osteopathy as a therapy.
- An experience of the practical possibilities of the hands as a diagnostic and treatment resource.

Module 1 - Brief history and philosophy of osteopathy.

Biography of the pioneers: Andrew Taylor Still, John Martin Littlejohn, William Garner Sutherland. The development of osteopathy in the United States of America, England, and rest of Europe. Recognition of osteopathy worldwide.

The four principles of osteopathy. The different fields and branches in osteopathy. Practical introduction to palpation.

Module 2 – Osteopathic principles.

The four principles of osteopathy. A. T. Still's application of each principle and posterior interpretations. Applications of each principle in contemporary osteopathy.

Module 3 – Introduction to palpation.

Perceptual experiences to develop sensitivity through the hands.

Suggested reading:

- "Autobiography of Andrew Taylor Still" – Andrew Taylor Still.
- "Philosophy of osteopathy" – Andrew Taylor Still.
- "The philosophy and mechanical principles of osteopathy" – Andrew Taylor Still.

- “Osteopathy: research and practice” – Andrew Taylor Still.
- “Osteopathy - models for diagnosis, treatment and practice” - J. Parsons, N. Marcer
- “Greenman’s principles of manual medicine” = L. DeStefano

Unit 2 - INTRODUCTION TO THE PRIMARY RESPIRATORY MECHANISM

Course objectives:

- To understand the origin of W.G. Sutherland’s theory and its development.
- To provide a practical experience of the diagnosis and treatment through the primary respiratory mechanism in structures of the cranial, thoracic and pelvic spheres.

Learning outcome:

- To palpate the expression of the primary respiratory mechanism in the three spheres while understanding its importance as a diagnostic and treatment tool.

Module 1 – Brief history of W. G. Sutherland:

W.G. Sutherland’s life as a student of A.T. Still. Context for the discovery of the Primary Respiratory Mechanism. Development of the theory.

Module 2 – The components of the Primary Respiratory Mechanism:

The five components. Implications of their state in health and disease.

Module 3 – Practical applications.

Introduction to palpation of the Primary Respiratory Mechanism. Basic diagnostic techniques for the skull, the thorax and the pelvis.

Suggested reading:

- “The cranial bowl” = W.G. Sutherland
- “Contribution of thought” - W.G. Sutherland
- “Osteopathy in the cranial field H.I. Magoun

Unit 3 - GENERAL OSTEOPATHIC TREATMENT

Course objectives:

- To effectively and safely practice the General Osteopathic Treatment.
- To understand its applications as a diagnostic and treatment resource.

Learning outcome:

- To effectively practice the GOT while understanding its specificities in both is diagnostic and treatment applications.

Module 1 – History of the GOT:

John M. Littlejohn's osteopathic approach. The GOT as a synthesis of his theories put in practice. John Wernham's general osteopathic treatment. Its possibilities as a diagnostic tool.

Module 2 – Practice of the GOT:

Techniques. Rhythm, routine, and rotation. Restrictive barriers.

Suggested reading:

- "The general osteopathic treatment" – Francoise Hematy-Vasseur.
- "The art and science of osteopathy" – John Wernham.

PAPER 2: Musculoskeletal 1

Paper code – MSOP102

Credit points – 4

Unit 1 - PELVIS

Course objectives:

- To diagnose and treat musculoskeletal dysfunctions in the pelvis, based on the osteopathic understanding of its relations.

Learning outcome:

- To understand the normal and abnormal mechanics in the pelvis through the osteopathic perspective.
- To diagnose and treat musculoskeletal dysfunctions in the pelvic structures.

Module 1 – Anatomy and biomechanics review:

Anatomical review. Biomechanics of the sacroiliac joint and the pubic symphysis.

Module 2 – Osteopathic approach:

Osteopathic concepts for the diagnosis and treatment of the structures of the pelvis. Osteopathic relationships.

Module 3 – Practice:

Diagnostic concepts and assessments. Muscle energy techniques. Mobilization techniques. Myofascial techniques. Listening treatments.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 2 - DIAPHRAGM

Course objectives:

- To understand and assimilate the importance of the diaphragm as a central structure in the osteopathic approach.
- To diagnose and treat the diaphragm in its different dysfunctions.

Learning outcome:

- To be able to diagnose the different diaphragm dysfunctions, by themselves and in relation to visceral, musculoskeletal, fascial and craniosacral structures.

Module 1 – Anatomy and biomechanics review:

Anatomical review. Physiology of ventilation. Abdominal and thoracic pressures. Visceral relations. A.T. Still remarks on the functional relevance of the diaphragm.

Module 2 – Practical:

Diagnostic assessments. Functional technique. Myofascial technique. Listening technique. Recoil technique. Muscular techniques.

Suggested reading:

- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 3 - LOWER LIMB

Course objectives:

- To diagnose and treat musculoskeletal dysfunctions in the lower limb, based on the osteopathic understanding of its relations.

Learning outcome:

- To understand the normal and abnormal mechanics in the lower limb structures through the osteopathic perspective.
- To diagnose and treat musculoskeletal dysfunctions in the lower limb structures.

Module 1 – Anatomy and biomechanics review:

Anatomical review. Biomechanics of the hip joint, knee, ankle and joints of the foot.

Module 2 – Osteopathic approach:

Osteopathic concepts for the diagnosis and treatment of the structures of the lower limb. Osteopathic relationships.

Module 3 – Practice:

Diagnostic concepts and assessments. Muscle energy techniques. Mobilization techniques. Myofascial techniques. Listening treatments.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

PAPER 3: Cranial 1

Paper code – MSOP103

Credit points – 4

Unit 1 - SPHENOBASILAR SYNCHONDROSIS

Course objectives:

- To acquaint the student with the osteopathic understanding of the cranial mechanics.
- To provide the palpation skills needed to relate with the physiologic and non-physiologic expressions of the cranial mechanism.
- To understand the principles of treatment in the cranial field and apply them in practice.

Learning outcome:

- To understand the basic principles of osteopathy in the cranial field.
- To be able to diagnose and treat dysfunctions in the occiput, the temporal bones, the sphenoid, and the sphenobasilar synchondrosis.
- To be able to diagnose and treat, through the cranial approach, dysfunctions in the sacrum, the ilia, the sacroiliac joint, the tibia and the fibula.

Module 1 – Anatomy review:

Anatomy of the covered cranial bones and meninges along with its osteopathically related vascular and nervous structures.

Module 2 – Introduction to cranial osteopathy:

The development of osteopathy in the cranial field by W.G. Sutherland. Palpation of the cranial rhythms. Palpation skills for osteopathy in the cranial field. The role of the meninges. The role of the cerebrospinal fluid. The core link.

Module 3 – Practical:

Diagnosis and treatment of the occiput, the temporal bones, the sphenoid, the sphenobasilar synchondrosis, and the dural tube. Diagnosis and treatment through the cranial approach of the sacrum, the ilia, the sacroiliac joint, the tibia and the fibula.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

Unit 2 - ETHMOID, FRONTAL AND PARIETAL BONES

Course objectives:

- To deepen the understanding of the principles of osteopathy in the cranial field.
- To provide the palpation skills needed to relate with the physiologic and non-physiologic expressions of the cranial mechanism in the covered structures.

Learning outcome:

- A deepened understanding of the dynamics of the cranial rhythm impulse and its effect on the cranial mechanism.
- To understand the cranial mechanics in physiologic and non-physiologic situations related to the covered structures.

Module 1 – Anatomy review:

Anatomy of the covered cranial bones and meninges along with its osteopathically related vascular and nervous structures.

Module 2 – Cranial osteopathy theory:

Fulcrum. Tension diagnosis. Density diagnosis. Implications of Sutherland's philosophy in cranial osteopathy. Palpation skills for osteopathy in the cranial field.

Module 3 – Practical:

Diagnosis through the four quadrants. Diagnosis and treatment of the frontal bone, the parietal bones, the ethmoid bone and their connective tissue related structures. The occipitomastoid junction. Diagnosis and treatment through the cranial approach of the clavicle, the scapula, the humerus, the radio and the ulna.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

PAPER 4: Embryology

Paper code – MSOP104

Credit points – 2

Course objectives:

- To provide the students with an understanding of the development of the body as a whole, and the various stages of development according to biodynamic embryology.
- To provide an in-depth understanding of the different stages of development and acknowledge the relevance of its presentation in an adult as a pattern.

Learning outcome:

- A biodynamic understanding of embryology and its functional importance.
- Being able to co-relate it with clinical presentations and case findings.
- An in-depth understanding of form and function in the body from the embryological perspective.

Module 1 - General introduction:

A general introduction to biodynamic embryology, understanding the important stages of development until the first five weeks. An introduction to the primary metabolic fields and their functional significance in the human body.

Module 2 - Development of the sensorium:

An understanding of the development of the nervous system and the sense organs. The importance of the various divisions of the nervous system and the functional development in utero.

Module 3 - Integration with the whole body:

Understanding the development of the organs of movement and the internal organs in the digestive system. An integration of the simultaneous development of the whole body and the recognition of the unique patterns that arise and express in the organism.

Suggested reading:

"The ontogenic basis of human embryology"- Erich Bleischmeidt

"Essentials of Human Embryology" **-** Langman

" A child is born" - Lennart Nielsson

PAPER 5: Biomechanics 1

Paper code – MSOP105

Credit points – 4 (2+2)

Course Objectives:

- Comprehend the biomechanical perspective of structure and function of parts of the musculoskeletal system in relevance to osteopathy.

- Correlate the knowledge gained, in understanding the biomechanical aspect of osteopathic dysfunction and treatment.

Learning Outcomes:

- Explaining the basic principles of biomechanics in terms of kinetics and kinematics.
- Understanding the biomechanical properties of connective tissue.
- Understanding, analysing and implementing the biomechanical concepts of pelvis, thoracic cage and lower extremity in the osteopathic practice.

Module 1 - Basic biomechanics:

Introduction to Biomechanics: meaning, definition, perspective, branches of biomechanics, and the significance of biomechanics in osteopathy.

Kinematics: types of motion (accessory and joint play of axial and peripheral skeleton), location of motion (instantaneous axis of movement, shifting axis of movement), magnitude of motion (factors determining it), direction of motion, angular motion and its various parameters, linear motion and its various parameters, projectile motions.

Kinetics: definition of forces, force vectors (composition, resolution, magnitude), naming of force (gravity and anti-gravity force, JFR), force of gravity and CoG, stability, reaction forces, equilibrium and balance, linear forces system, friction and its various parameters, parallel force systems, concurrent force systems, work power and energy, moment arms of force and its application, force components, Equilibrium of force.

Mechanical energy, work and power: Definitions, positive and negative work of muscles, muscle mechanical power, causes of inefficient movement, co-contractions, isometric contraction against gravity jerky movement, energy generation at one joint and absorption at another, energy flow and energy system used by the body, energy storage.

Module 2 - Biomechanics of connective tissues:

Biomechanics of fascia, ligament and tendon: structure and composition, mechanical properties and physiological properties, cross sectional area measurements, muscle tendon properties, temperature sensitivity, changes in physical and mechanical properties because of ageing, exercise and immobilisation and position mechanoreceptors, its types, distribution with respect to joint, structure and function, clinical applications.
Biomechanics of muscle: structure and composition of muscle, muscle function, mechanical properties of various muscles, changes in mechanical and physiological properties because of ageing, exercise, immobilisation, injury.

Biomechanics of Bone growth and development: structure and function of bone, bone growth and development, pathomechanics of bone, clinical applications.
Biomechanics of skeletal articulations: joint design, joint categories, joint function (arthrokinematics, osteokinematics, kinematic chains), joint forces, equilibrium and distribution of these forces, degenerative changes in weight bearing joints and compensatory actions, joint stability and flexibility, clinical applications.

Module 3 - Biomechanics of pelvis:

Structure and function of pelvic region (true and false pelvis). Biomechanics of sacrum and pelvic bones. Sacroiliac joint. Lumbosacral joint. Pubic symphysis.

Module 4 - Biomechanics of thoracic cage:

General Structure and function. Arthrokinematics and osteokinematics of thoracic cage. Structures of respiration. Mechanics of respiration. Phases of respiration. Diaphragmatic and thoracic breathing. Muscles of respiration. Diaphragm: structure, function and biomechanical analysis.

Module 5 - Biomechanics of lower extremity:

Hip complex. knee Complex. Ankle and foot complex.

Module 6 - Practical:

Joint axis and planes. Degrees of freedom. Osteokinematics and arthrokinematics of joints. Examination of joint active and passive range of motion. Joint play movements. Close packed position. Open packed position. Capsular pattern. Joint end feel evaluation. Biomechanical analysis of pelvis, thoracic cage and lower extremity joints.

Suggested reading:

- "Basic Biomechanics" – S.J. Hall
- "Kinesiology: The Mechanics and Pathomechanics of Human Movement" – C.A. Oatis
- "Clinical Kinesiology and Anatomy" - L. Lippert
- "Joint Structure and Function" - P.K. Levangie
- "The Physiology of the Joints" - Kapandji
- "Clinical Biomechanics of Spine" - A.A. White
- "Biomechanics Principles and practices" – D.R. Peterson

SEMESTER 1								
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Examination and Marks Distribution**			
					Internal Assessment	**End Term Examination**		**Total Points**
					Mid semester Exam	**Theory**	**Practical**	
CC-1	Introduction to Osteopathy	MSOP101	4	4T	40	60		100
CC-2	Musculoskeletal I	MSOP102	4	4T	40	60		100
CC-3	Cranial I	MSOP103	4	4T	40	60		100
CC-4	Embryology	MSOP104	2	2T	20	30		50
CC-5	Biomechanics I	MSOP105	4	4T	40	60		100
	Happiness Connect I	SSC-101	2	1T/1P		25	25	50
CC-6	Osteopathy Practice	MSOP 106	8	8P			200	200
Total Credits of Semester 1			**28**		**Total Points of Semester 1**			**700**

2nd SEMESTER

PAPER 1: Musculoskeletal 2

Paper code - MSOP201

Credit points – 4

Unit 1 - UPPER LIMB

Course objectives:

- To diagnose and treat musculoskeletal dysfunctions in the upper limb, based on the osteopathic understanding of its relations.

Learning outcome:

- To understand the normal and abnormal mechanics in the upper limb structures through the osteopathic perspective.
- To diagnose and treat musculoskeletal dysfunctions in the upper limb structures.

Module 1 – Anatomy and biomechanics review:

Anatomical review. Biomechanics of the sternoclavicular, acromioclavicular joint, scapulothoracic, glenohumeral, elbow, wrist, and hand.

Module 2 – Osteopathic approach:

Osteopathic concepts for the diagnosis and treatment of the structures of the upper limb. Osteopathic relationships.

Module 3 – Practice:

Diagnostic concepts and assessments. Muscle energy techniques. Mobilization techniques. HVLA techniques. Myofascial techniques. Listening treatments.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 2 - LUMBAR SPINE

Course objectives:

- To understand the mechanics of the lumbar spine.
- To acquaint the student with the osteopathic understanding of the lumbar spine in the context of its musculoskeletal, visceral, and craniosacral relationships.
- To diagnose and treat dysfunctions in the lumbar spine.

Learning outcome:

- To successfully understand the lumbar spine dysfunctions in their relation with the musculoskeletal, visceral and craniosacral context.
- To diagnose and treat effectively lumbar spine dysfunctions.

Module 1 – Anatomy review and biomechanics:

Anatomical review and biomechanics of the lumbar spine.

Module 2 – Osteopathic approach:

Development of the spine in the embryo and infant. Fryette mechanics. Postural considerations. Osteopathic concepts on the lumbar spine. Musculoskeletal relations. Visceral relations. Cranial relations. Fascial relations. Osteopathic dysfunctions of the lumbar structures. Strategic approaches for lumbar spine dysfunctions.

Module 3 – Practice:

Diagnosis of lumbar spine dysfunctions. Treatment of lumbar spine dysfunctions through mobilization techniques, muscle energy techniques, myofascial techniques and listening techniques.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

PAPER 2: Cranial 2

Paper code - MSOP202

Credit points - 4

Unit 1 - Reciprocal tension membrane

Course objectives:

- To deepen the understanding of the role of the cranial membranes in the function and dysfunction of the cranial mechanism.
- To introduce the concept of cranial lesions, understand their aetiology, characteristics and symptomatology, and recognise them in the patient.

Learning outcome:

- To widen the concept of the cranial mechanics by gaining an in depth understanding of the role of the meninges.
- To understand the role of the cranial lesions in cranial origin dysfunctions, being able to diagnose them in the patient.
- To effectively treat cranial lesions.

Module 1 – Reciprocal tension membranes:

Anatomical review of the meninges. Sutherland's concept of cranial membranes. The influence in the cranial mechanism. The structure-function relationship of the meninges in the skull. The reciprocal tension membranes and the cerebrospinal fluid fluctuation.

Module 2 – Cranial lesions:

The sphenobasilar synchondrosis. Cranial lesions classification. Flexion lesion: etiology, characteristics, symptomatology. Extension lesion: etiology, characteristics, symptomatology. Torsion lesion: etiology, characteristics, symptomatology. Sidebending rotation lesion: etiology, characteristics, symptomatology.

Module 3 – Practice:

Observation of the facial features in cranial lesions. Diagnosis through the four quadrants. Diagnosis through the classical hold. Flexion lesion treatment. Extension lesion treatment. Torsion lesion treatment. Sidebending rotation lesion treatment.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

Unit 2 - Temporomandibular joint

Course objectives:

- To understand the biomechanics of the temporomandibular joint.
- To understand the anatomical and functional relationships of the temporomandibular joint and its importance in postural integrity.
- To diagnose and treat temporomandibular joint dysfunctions.
- To understand the etiology, characteristics and symptomatology of the superior vertical strain lesion, the inferior vertical strain lesion, and the lateral strain lesion.
- To diagnose and treat the above mentioned cranial lesions.

Learning outcome:

- To recognize the biomechanics of temporomandibular joint in both its physiological functioning and in dysfunction, while linking these findings with other musculoskeletal, craniosacral and visceral relevant findings that may be present in a lesional chain.
- To effectively diagnose and treat temporomandibular joint dysfunctions.
- To understand the etiology, characteristics and symptomatology of the superior vertical strain, the inferior vertical strain, and the lateral strain lesions.
- To diagnose and treat the above mentioned cranial lesions.

Module 1 – Anatomy review and biomechanics.

Review of the anatomy of the temporomandibular joint. Biomechanics of the temporomandibular joint.

Module 2 – Osteopathic considerations of the temporomandibular joint.

Lesional chains. Morphological parallelism with the pelvis. The temporomandibular joint as a compensational mechanism. The temporomandibular joint in postural related imbalances.

Module 3 – Temporomandibular joint practice:

Diagnostic method and assessments. Treatment of temporomandibular dysfunctions through functional techniques, myofascial techniques, listening techniques, mobilization techniques.

Module 4 – Cranial lesions:

Superior vertical strain lesion: etiology, characteristics, symptomatology. Inferior vertical strain lesion: etiology, characteristics, symptomatology. Lateral strain lesion: etiology, characteristics, symptomatology.

Module 5 – Cranial lesions practice:

Diagnosis and treatment of the superior vertical strain, inferior vertical strain and lateral strain lesions.

Suggested reading:

- "Osteopathy in the cranial field" - H. Magoun.
- "The cranial bowl" – W.G. Sutherland.
- "Contributions of thought" – W.G. Sutherland.
- "Cranial Osteopathy" – T. Liem.

PAPER 4: Research methodology and biostatistics

Paper code - MSOP 204

Credit points - 4

Course objectives:

- To assist the students to acquire an understanding of the research methodology and biostatistical methods as a basis for identifying a research problem, and planning and implementing a research plan.
- To further enable the students to evaluate research studies and utilise research findings to improve the quality of their osteopathic practice, education and management.

Learning outcome:

- Understanding of basic research and biostatistical concepts and approaches.
- Acquiring and utilising the knowledge of literature review of various sources.
- Developing the skill of preparing a research proposal, conduct a research study, communicate research findings, critically evaluate research studies, and writing a scientific paper for publication.

Part I: Research Methodology

Module 1 - Introduction to research methodology:

Meaning of research. Definition of Research and its characteristics. Evidence based practice. Objectives of research. Motivation in Research. Types of Research. Descriptive vs. analytical. Applied vs. fundamental. Quantitative vs. qualitative. Conceptual vs. empirical. Other types of research. Research Approaches. Significance of Research. Research methods versus methodology. Research and scientific method. Importance of knowing how research is done. Research process. Formulating the research problem. Extensive literature survey. Development of working hypothesis. Preparing the research design. Determining sample design. Collecting the data. Execution of the project. Analysis of data. Hypothesis testing. Generalisations and interpretations. Preparation of report or thesis. Developing research ideas. Criteria for good research. Problems encountered by researchers in India.

Module 2 - Research problem:

Meaning of research problem. Selecting the problem. Necessity of defining the problem. Technique Involved in defining a problem.

Module 3 - Review of literature:

Importance, purposes, processes, sources, criteria for selection of resources and steps in reviewing literature.

Module 4 - Research approaches and designs:

Meaning of research designs. Significance of research designs. Features of good research design. Important concept relating to research design. Variables and its types. Confounded relationship. Research hypothesis, definition, formulation and types. Experimental and non-experimental hypothesis testing research. Experimental and control groups. Treatments. Experiment. Experimental units. Types of Research design: 1. Qualitative and Quantitative research designs. 2. Experimental design. Quasi experimental research, advantages and disadvantages of quasi experiments. Non experimental design. Controlled trials. Parallel or concurrent controls. Randomized. Non randomized. Sequential controls. Self controlled. Crossover. External controls. Studies with no controls. 3. Observational study design. Descriptive or case series. Case control studies (retrospective). Cross sectional studies, surveys. Cohort studies (prospective). Historical Cohort studies. 4. Meta analyses.

Module 5 - Sampling design:

Definition of Population and sample. Steps in sample design. Criteria of selecting sampling technique. Characteristics of good sampling design. Types of sampling designs: a. Non-probability sampling, convenience sampling, quota sampling, purposive sampling, snowball sampling. Advantages and disadvantages of non probability sampling. b. Probability sampling; Simple random sampling, stratified random sampling, cluster sampling, systematic sampling, advantages and disadvantages of probability sampling. f. Sample size determination, probability and sampling error.

Module 6 - Tools and methods of data collection:

Concepts of data collection / measurement. Measurement scales: Nominal, ordinal, interval, ratio, sources of errors in measurement, tests of measurement, tests of validity, tests of reliability, tests of practicality, scaling, meaning, scale classification bases, scaling techniques. Methods of data collection: primary data &amp, secondary data, observation method, interview method, questionnaires and schedules, case study method, criteria for selection of appropriate method for data collection.

Module 7 - Analysis and interpretation of data:

Plan for data analysis: quantitative and qualitative. Statistical analysis. Interpretation of data. Conclusion and generalisations. Summary and discussion

Module 8 - Research writing process:

Communication of research results, oral and written. Writing research report. Methods and style of reference - Vancouver, American Psychology Association (APA), Campbell, etc. Writing scientific articles for publication.

Module 9 - Research ethics and plagiarism:

Importance of ethics in research, ethical issues in human subjects research, ethical principles that govern research with human subjects. Components of an ethically valid informed consent for research. Plagiarism and its guidelines.

Module 10 - Research proposal:

Title, Abstract, Research Question. Introduction (need of the study, aims & objectives of the study, hypothesis, operational definitions). Literature Review. Methodology (study design, sample size, sampling technique, source of subjects, inclusion & exclusion criteria, procedure, outcome

measures, dependent & independent variables, tools & instrumentation. Pilot study. Data analysis. Research funding.

Module 11 - Critical analysis of a research article:

Critically analysing, interpreting and exploring the ways to implement the results of published indexed research articles in osteopathic practice.

Part II: Biostatistics

Module 12 - Basic biostatistics:

Introduction: meaning, definition, characteristics of statistics. Importance of the study of statistics, branches of statistics, statistics and health science. Data: definition, types, presentation, collection methods, various types of graphs, obtaining graphs using statistical software like excel, SPSS. Measures of central value. a. arithmetic mean, median, mode, relationship between them b. partitioned values- quartiles, deciles, percentiles. c. Graphical determination. 4. Measures of dispersion: range, mean deviation, standard deviation, normal distribution curve, properties of normal distribution, standard normal distribution, transformation of normal random variables, inverse transformation, normal approximation of binomial distribution. 6. Correlation analysis: bivariate distribution, scatter diagram, coefficient of correlation, calculation & interpretation of correlation coefficient, T-test, Z-test, P-value. 7. Regression analysis: lines of regression, calculation of regression coefficient. 8. Sampling: methods of sampling, sampling distribution, standard error, types I & II error. 9. Probability (in brief): probability and sampling, probability as a mathematical system, population and samples, sampling distribution, sampling methods, point and interval estimation for proportion mean, hypothesis testing, simple test of significance, inferential technique: normal. 10. Hypothesis testing: null hypothesis, alternative hypothesis, acceptance & rejection of null hypothesis, level of significance. 11. Parametric & non parametric tests: chi square test, Mann-Whitney U test, Wilcoxon signed test, Kruskal-Wallis test, Friedman test, T-test/student T test g. analysis of variance, standard errors of differences.

Suggested Reading:

- “Research Methodology” - C.R. Kothari
- “Practical Research: A Guide for Therapists” - S. French
- “Research methodology and medical statistics for students” - S. Dornala

PAPER 5: Biomechanics-II

Paper code – MSOP205

Credit points – 4 (2+2)

Course objectives:

- Comprehend the biomechanical perspective of structure & function of parts of the musculoskeletal system in relevance to Osteopathy.
- Correlate the knowledge gained, in understanding the biomechanical aspect of Osteopathic dysfunction and treatment.

Learning Outcome:

- Understanding, analysing and implementing the biomechanical concepts of the spine, temporomandibular joint, and upper extremity in the osteopathic practice.
- Gaining and implementing the knowledge of posture and gait analysis in the osteopathic diagnosis and treatment.

Module 1 - Biomechanics of axial skeleton:

General structure and function of axial skeleton. Structure and function of cervical region. Biomechanics of cervical spine. Structure and function of thoracic region. Biomechanics of thoracic spine. Structure and function of lumbar region. Biomechanics of lumbar spine.

Module 2 - Biomechanics of temporomandibular Joint:

Joint structure and function. Kinetic and kinematics of temporomandicular joint. Relationship with the cervical spine and posture.

Module 3 - Biomechanics of upper extremity:

Shoulder complex: sternoclavicular joint, acromioclavicular joint, coracoclavicular joint, scapulothoracic joint, glenohumeral joint, elbow complex, wrist and hand complex.

Module 4 - Gait:

Normal gait and its determinants. Gait parameters (kinetic, kinematics, time-space). Pathological gait. Limb length discrepancy.

Module 5 - Posture:

Postural development (including factors affecting posture, causes of poor posture). Kinetics and kinematics of posture. Analysis of posture (standing, forward flexion, sitting, supine lying, prone lying). Effects of age, gender, occupation, pregnancy and recreation on posture.

Module 6 - Practical:

Biomechanical analysis of the axial skeleton, TMJ and upper extremity joints. Examination of posture. Examination of gait.

Suggested reading:

- "Basic Biomechanics" – S.J. Hall
- "Kinesiology: The Mechanics and Pathomechanics of Human Movement" – C.A. Oatis
- "Clinical Kinesiology and Anatomy" - L. Lippert
- "Joint Structure and Function" - P.K. Levangie
- "The Physiology of the Joints" - Kapandji
- "Clinical Biomechanics of Spine" - A.A. White
- "Biomechanics Principles and practices" – D.R. Peterson

PAPER 6: Clinical practice – 150 hours

Paper code – MSOP206

SEMESTER 2								
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Examination and Marks Distribution**			
					Internal Assessment	**End Term Examination**		**Total Points**
					Mid semester Exam	**Theory**	**Practical**	
CC-7	Musculoskeletal II	MSOP201	4	4T	40	60		100
CC-8	Cranial II	MSOP202	4	4T	40	60		100
CC-9	Visceral I	MSOP203	4	4T	40	60		100
CC-10	Research Methodology and Biostatistics	MSOP204	4	4T	40	60		100
CC-5	Biomechanics II	MSOP205	4	4T	40	60		100
CC-11	Clinical Practice	MSOP206	8	8P			200	200
Total Credits of Semester 2			**28**		**Total Points of Semester 2**			**700**

3rd SEMESTER

PAPER 1: Musculoskeletal 3

Paper code – MSOP 301

Credit Points – 4

Unit 1 - THORACIC SPINE

Course objectives:

- To understand the mechanics of the thoracic spine.
- To acquaint the student with the osteopathic understanding of the thoracic spine in the context of its musculoskeletal, visceral, and craniosacral relationships.
- To diagnose and treat dysfunctions in the thoracic spine.

Learning outcome:

- To successfully understand the thoracic spine dysfunctions in their relation with the musculoskeletal, visceral and craniosacral context.
- To effectively diagnose and treat thoracic spine dysfunctions.

Module 1 – Anatomy review and biomechanics:

Anatomical review and biomechanics of the thoracic spine.

Module 2 – Osteopathic approach:

Fryette mechanics on the thoracic spine. Postural considerations. Osteopathic concepts on the thoracic spine. Musculoskeletal relations of the thoracic spine. Visceral relations. Cranial relations. Fascial relations. Osteopathic dysfunctions of the thoracic structures.

Module 3 – Practice:

Diagnosis of thoracic spine dysfunctions. Treatment of thoracic spine dysfunctions through mobilization techniques, muscle energy techniques, myofascial techniques and listening techniques.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 2 - RIBS

Course objectives:

- To understand the mechanics of the thorax and it role in the functions of ventilation, cardiovascular and lymphatic circulation, and the nervous system.
- To understand the osteopathic relations of the ribs in the musculoskeletal, visceral and craniosacral fields.
- To diagnose and treat rib dysfunctions.

Learning outcome:

- To consider rib dysfunctions in the context of osteopathic diagnosis, by identifying dysfunctional chains from and to the related musculoskeletal, visceral and fascial structures.
- To effectively diagnose and treat rib dysfunctions.

Module 1 – Anatomy review and biomechanics:

Review of the anatomy and biomechanics of the rib cage.

Module 2 – Osteopathic approach:

Visceral connections. Musculoskeletal connections. Postural considerations of distortions in the rib cage structure.

Module 3 – Practice:

Diagnosis of the ribs, costovertebral joints, costocondral joints, sternocondral joints. Chapman neuro lymphatic reflexes. Mobilization techniques. Muscle energy techniques. Listening treatments. Myofascial techniques. Practical integration of the ribs with their musculoskeletal and visceral relations.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 3 - CERVICAL SPINE: C3-C7

Course objectives:

- To understand the mechanics of the cervical spine, C3-C7.
- To acquaint the student with the osteopathic understanding of the cervical spine in the context of its musculoskeletal, visceral, and craniosacral relationships.
- To diagnose and treat dysfunctions in the cervical spine.

Learning outcome:

- To understand lower cervical spine dysfunctions in their relation with the musculoskeletal, visceral and craniosacral fields.
- To effectively diagnose and treat lower cervical spine dysfunctions.

Module 1 – Anatomy review and biomechanics:

Anatomy review. Biomechanics of the cervical spine.

Module 2 – Osteopathic concepts:

Fryette mechanics on the lower cervical spine. Postural considerations. Osteopathic concepts on the cervical spine. Musculoskeletal relations of the cervical spine. Visceral relations. Cranial relations. Fascial relations.

Module 3 – Practice:

Diagnosis of lower cervical spine dysfunctions. Treatment of lower cervical spine dysfunctions through mobilization techniques, muscle energy techniques, functional techniques, myofascial techniques and listening techniques.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Muscle energy techniques" – L. Chaitow.
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Applied anatomy" – M.E. Clark.

Unit 4 - MYOFASCIAL TECHNIQUES

Course objectives:

- To acquaint the student with the current research on the field of the fasciae and its practical applications.

- To understand the anatomy of the fascial web.
- To understand the practical dynamics of the fascia and apply them for the diagnosis and treatment of musculoskeletal dysfunctions.

Learning outcome:

- To integrate the ongoing body of research in the field of fasciae with the practical possibilities in osteopathic diagnosis and treatment.
- To approach musculoskeletal dysfunctions with fascial treatments.

Module 1 – Anatomy and physiology:

Basic anatomy of the fascial system according to Stecco. Physiological principles of the fascial web.

Module 2 – Functions and applications:

Classification of the fascia. Structural functions of the fascia. Proprioceptive considerations. Energy storage in the superficial fascia and practical applications. Implications of the immune function of the fasciae.

Module 3 – Practical.

Introduction to the palpation of the fasciae and treatment approaches. Inductive and non-inductive treatments for the fascia of all major joints. Treatment of the fascial chains.

Suggested reading:

- "Fascia: the tensional network of the human body" – R. Schleip.
- "Functional atlas of the human fascial system" – Carla Stecco.

PAPER 2: Cranial 3

Paper code – MSOP302

Credit Points - 4

Unit 1 - THE FASCIAL COMPLEX

Course objectives:

- To acquaint the student with the osteopathic understanding of the dynamics of the bones of the face.
- To understand the restrictions that may be present in the facial mechanism with their symptomatology, and relate them with sphenobasilar synchondrosis dysfunctions and other cranial causes.
- To diagnose and treat cranial dysfunctions involving the bones of the face.

Learning outcome:

- To integrate the understanding of the dynamics of the bones of the face with the previous knowledge of the cranial mechanism.
- To effectively diagnose and treat cranial dysfunctions in the fascial sphere.

Module 1 – Anatomy review:

Anatomy review of the bones of the face and their sutures.

Module 2 – Osteopathic considerations:

The maxilla, zygomatic, nasal bone, palatine and vomer dynamics in Sutherland's concept. Implications of motion and restrictions of their sutures. The facial mechanism in expression. The sinuses in relation to the facial bones.

Module 3 – Practice:

Diagnosis and treatment of the maxilla, zygomatic, vomer, palatine and nasal bones and their sutures.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

Unit 2 - VENOUS SINUSES AND BRAIN VENTRICLES

Course objectives:

- To acquaint the student with the osteopathic concept of the brain ventricles and their importance in nervous function.
- To understand the dynamics of the venous sinuses in theory and through their osteopathic treatment.
- To integrate the above mentioned elements in the approach to the cranial sphere treatment.

Learning outcome:

- To integrate the osteopathic concept of the cerebrospinal fluid fluctuation, the brain ventricles and the venous sinuses with the previously acquired knowledge of the cranial mechanism.
- To practically stimulate the function of the ventricles and cerebrospinal fluid fluctuation in the context of the treatment of the cranial mechanism.
- To effectively enhance the function of the venous sinuses in the cranial sphere after understanding its effect.

Module 1 – Anatomy review:

Anatomy review of the brain ventricles, the venous sinuses, and the fluctuation of the cerebrospinal fluid.

Module 2 – Osteopathic considerations:

Sutherland's concept of the cerebrospinal fluid. The cerebrospinal fluid in contemporary cranial osteopathy. The ventricles in the cranial concept. Venous sinuses in the cranial concept.

Module 3 – Practice:

Treatments to enhance the function of the venous sinuses and the fluctuation of the cerebrospinal fluid.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

PAPER 3: Visceral 2

Paper code – MSOP303

Credit points – 4

Unit 1 - COLON AND SMALL INTESTINES

Course objectives:

- To acquaint the student with the principles of visceral osteopathy.
- To integrate the visceral field with the musculoskeletal and craniosacral fields.
- To diagnose and treat colon and small intestine osteopathic dysfunctions.

Learning outcome:

- To understand the principles of visceral osteopathy and apply them in the diagnosis and treatment of colon and small intestine osteopathic dysfunctions.
- To integrate the visceral field with the musculoskeletal and craniosacral fields in diagnosis and treatment.

Module 1 – Visceral osteopathy introduction:

History of visceral osteopathy. The musculoskeletal, craniosacral and visceral triad in diagnosis and treatment. Barral's contributions. Contemporary osteopathy contributions.

Module 2 – Anatomy and physiology review.

Review of the anatomy and physiology of the colon and small intestine.

Module 3 – Practice.

Osteopathic dysfunctions of the colon and small intestine. Mobility and motility of the colon and small intestine. Diagnostic methods and assessments. Treatment of the colon and small intestine dysfunctions through recoil technique, mobilization techniques, functional techniques, myofascial techniques and listening techniques. Lymphatic techniques. Lymphatics protocol.

Suggested reading:

- "Visceral manipulation in osteopathy" – Eric Hebgen.
- "Visceral manipulation" – J.P. Barral.
- "Visceral manipulation 2" – J.P. Barral.

Unit 2 - RESPIRATORY SYSTEM AND HEART

Course objectives:

- To acquaint the student with the principles of osteopathic diagnosis and treatment of the lungs and respiratory tract.
- To understand the osteopathic perspective on hearth dysfunctions and its links with other structurally and functionally related structures.
- To integrate these concepts with their musculoskeletal, visceral and craniosacral relations.

Learning outcome:

- To develop an understanding of the respiratory system in the osteopathic visceral approach while considering its musculoskeletal, visceral and craniosacral relations.
- To effectively treat respiratory tract osteopathic dysfunctions or improve its function for further purposes.
- To incorporate the osteopathic perspective on heart and integrate it with the previous knowledge in the craniosacral and musculoskeletal fields.
- To improve heart and circulatory function through osteopathic local and distal treatment.

Module 1 – Anatomy and physiology review:

Review of the anatomy and physiology of the respiratory system and heart.

Module 2 – Osteopathic concepts:

Related osteopathic dysfunctions. Osteopathic concepts. Musculoskeletal, visceral and craniosacral relations.

Module 3 – Practice:

- Osteopathic dysfunctions of the lungs. Mobility and motility of the lungs. Diagnostic methods and assessments. Treatment of the lungs and respiratory tract osteopathic dysfunctions through mobilisation techniques, listening techniques, rebound techniques, and recoil technique. Osteopathic dysfunctions of the hearth. Mobility and motility of the hearth. Diagnostic methods and assessments. Treatment of the hearth dysfunctions through myofascial techniques and listening techniques. Motility and mobility of the thyroid gland.

Suggested reading:

- “Visceral manipulation in osteopathy” – Eric Hebgen.
- “Visceral manipulation” – J.P. Barral.
- “Visceral manipulation 2” – J.P. Barral.
- “Collected papers of Viola Frymann” – Viola Frymann.
- “The thorax” - J.P. Barral.

PAPER 4: Integration

Paper code – MSOP304

Credit points - 4

Unit 1 - MUSCULOSKELETAL, VISCERAL AND CRANIAL INTEGRATION

Course objectives:

- To review the anatomical, physiological and osteopathic relations of all the structures learned along the program.
- To explore the different possibilities in osteopathy of connecting the structures studied under the musculoskeletal, visceral and cranial papers.
- To provide a platform where students can understand in a practical way the implications of these connections in diagnosis and treatment.
- To broaden the understanding of the osteopathic principles and philosophy in the light of the practice.

Learning outcome:

- A holistic vision of health, disease and osteopathic treatment supported by a practical understanding of the interdependence between the various systems and anatomical structures studied along the program.

Module 1 – Anatomical, physiological and osteopathic connections

Review of the anatomical, physiological and osteopathic relations of the different structures.

Module 2 – Osteopathic models

Osteopathic models as possible frameworks for integration.

Module 3 – Practice:

Diagnosis through global approaches, differentiation tests, inhibition tests, and osteopathic differential diagnosis. Global to specific and specific to global transitions.

Unit 2 - SAFETY CONSIDERATIONS AND CONTRAINDICATIONS

Course objectives:

- To acquaint the student with the absolute and relative contraindications to osteopathic treatment, as given by the World Health Organisation.
- To acquaint the student with the clinical signs and other clinical information that points towards these absolute and relative contradictions.

- To train the student in identifying these clinical signs through the case history (interview), observation and examination of the patient.
- To understand the pathophysiology behind the conditions that are contraindicated and the reason why osteopathy is contraindicated or restricted to certain techniques and approaches.

Learning outcome:

- Understanding the limitations of osteopathy in the health care field and the ethical and legal importance of ensuring safety in the practice.
- Identifying and understanding clinical signs and other information that links with conditions where the patient must be referred and osteopathic treatment avoided.
- Identifying and understanding clinical signs and other information that links with conditions where the osteopathic treatment must be restricted to certain techniques and/or approaches, and to design a treatment plan that is safe and effective for each of these conditions.
- Understanding the dynamics of a multidisciplinary approach in conditions where this is needed or desirable, and the role and limitations of osteopathy in these cases.

Module 1 - Absolute and partial contraindications:

Safety concepts in relation to osteopathy, its reach and limitations. Classification of contraindicated conditions in absolute and relative, according the the WHO's Benchmarks for Training in Osteopathy document.

Module 2 – Pathophysiology of the contraindicated conditions:

Pathophyisiology of the contraindicated conditions. Why they are contraindicated.

Module 3 – Clinical recognition of contraindications:

Clinical signs during the patient's case history taking, observation and examination. Differential diagnosis for each condition.

Module 4: Referral and treatment plans:

Referral to the adequate specialist based on the suspected condition in the case of absolute contraindications. Possible osteopathic approaches in the case of partial contraindications. Communication with the patient in conveying the limitation of osteopathic treatment when dealing with an absolute or partial contraindication.

Unit 3 - CASE PRESENTATIONS

Course objectives:

- To provide the students with a platform where they can train their communication skills by presenting in front of their pairs.
- A space for the students to exercise osteopathic reasoning while synthesising their experience in clinic, expressing their understanding and debating with faculty and other students.

Learning outcome:

- An increased capacity of expressing the process behind the practice of osteopathy.
- An enhanced understanding of osteopathic principles, philosophy, diagnosis and treatment through the discussions and debates.

Module 1 - Case presentations:

Presentation and discussion of clinical cases.

Suggested reading:

- "Philosophy of osteopathy" – Andrew Taylor Still.
- "The philosophy and mechanical principles of osteopathy" – Andrew Taylor Still.
- "Osteopathy: research and practice" – Andrew Taylor Still.
- "Contributions of thought" = W.G. Sutherland
- "Collected papers of Viola Frymann" – Viola Frymann.
- "Osteopathy - models for diagnosis, treatment and practice" - J. Parsons, N. Marcer
- "Greenman's principles of manual medicine" = L. DeStefano

Paper 5: Musculoskeletal 4

Paper code – MSOP305

Credit points – 4

Unit 3 - High Velocity Low Amplitude 1: pelvis and lower limb

Course objectives:

- To acquaint the student with the principles of HVLA techniques
- To acquaint the student with the applications and contraindications of HVLA techniques

- To diagnose and treat osteopathic dysfunctions in the pelvic and lower limb joints through HVLA techniques

Learning outcome:

- To develop an understanding of the scope, limitations and application of HVLA techniques in the pelvis and lower limb.
- To effectively treat osteopathic dysfunctions in the sacroiliac joint, knee joint, talus, navicular, cuboid, and metatarsal bones through HVLA techniques.

Module 1 – introduction:

a) History of HVLA techniques
b) Mechanisms of action
c) Scope and applications of HVLA techniques
d) Contraindications of HVLA techniques

Module 2 – pelvis and lower limb review:

a) Review of the biomechanics of the pelvic and lower limb joints
b) Review of the surface anatomy and palpation of the pelvis and lower limb landmarks
c) Review of the osteopathic assessment and mobilisations of the pelvis and lower limb

Module 4 – practice:

a) HLVA techniques for sacroiliac, iliosacral, and pubic dysfunctions
b) HLVA techniques for proximal tibiofubular and distal tibiofular dysfunctions
c) HVLA technique for dysfunctions of the talus, navicular, cuboid and metatarsal dysfunctions.

Unit 2 - High Velocity Low Amplitude 2: lumbar spine, thoracic spine and ribs

Course objectives:

- To acquaint the student with the principles of HVLA techniques in the spine and ribcage
- To acquaint the student with the applications and contraindications of HVLA techniques in the spine and ribcage
- To diagnose and treat osteopathic dysfunctions in the lumbar spine, thoracic spine and joints of the thorax through HVLA techniques.

Learning outcome:

- To develop an understanding of the scope, limitations and application of HVLA techniques in the lumbar spine, thoracic spine and ribs.
- To effectively treat osteopathic dysfunctions in the lumbar vertebrae, thoracic vertebrae and ribs.

Module 1 – introduction:

a) Mechanisms of action
b) Scope and applications

c) Contraindications

Module 2 – review of the spine and ribs mechanics:

a) Review of the biomechanics of the joints of the lumbar spine and thorax
b) Review of the surface anatomy and palpation
c) Review of the osteopathic assessment and mobilisations of the lumbar spine, thoracic spine and ribs

Module 4 – practice:

a) HLVA techniques for lumbar spine dysfunction
b) HLVA techniques for thoracic spine dysfunction
c) HVLA technique for rib dysfunction.

Unit 5 - High Velocity Low Amplitude 3: cervical spine and upper limb

Course objectives:

- To acquaint the student with the principles of HVLA techniques in the cervical spine and upper limb
- To acquaint the student with the applications and contraindications of HVLA techniques in the cervical spine and upper limb
- To diagnose and treat osteopathic dysfunctions in the cervical spine and upper limb.

Learning outcome:

- To develop an understanding of the scope, limitations and application of HVLA techniques in the cervical spine spine and joints of the upper limb.
- To effectively treat osteopathic dysfunctions in the cervical vertebrae, sternoclavicular joint, radial head, and wrist joint.

Module 1 – introduction:

a) Mechanisms of action
b) Scope and applications
c) Contraindications

Module 2 – review of the spine and ribs mechanics:

a) Review of the biomechanics of the joints of the cervical spine and upper limb
b) Review of the surface anatomy and palpation
c) Review of the osteopathic assessment and mobilisations of the cervical spine, sternoclavicular joint, elbow complex and wrist joint

Module 4 – practice:

a) HLVA techniques for cervical spine dysfunction
b) HLVA techniques for sternoclavicular dysfunction
c) HVLA technique for radial head dysfunction.
d) HVLA technique for wrist joint dysfunction

PAPER 6: Clinical practice – 250 hours

Paper code – MSOP306

SEMESTER 3								
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Examination and Marks Distribution**			
					Internal Assessment	**End Term Examination**		**Total Points**
					Mid semester Exam	**Theory**	**Practical**	
CC-12	Musculoskeletal III	MSOP301	4	4T	40	60		100
CC-13	Cranial III	MSOP302	4	4T	40	60		100
CC-14	Visceral II	MSOP303	4	4T	40	60		100
CC-15	Integration	MSOP304	4	4T	40	60		100
CC-16	Musculoskeletal IV	MSOP305	4	4T	40	60		100
CC-17	Clinical Practice	MSOP306	8	8P			200	200
Total Credits of Semester 3			28		Total Points of Semester 3			700

4th SEMESTER

Paper 1: Musculoskeletal 5

Paper code – MSOP401

Credit points – 4

Unit 1 - C0-C1, C1-C2, HYOID BONE

Course objectives:

- To acquaint the student with the mechanics of the upper cervical spine.
- To understand the musculoskeletal, visceral and craniosacral relations of the atlas, the axis, and the hyoid bone.
- To acquaint the student with the osteopathic concepts of these structures.
- To diagnose and treat C0-C1, C1-C2 and hyoid bone dysfunctions.

Learning outcome:

- To be able to, based on the osteopathic considerations and the understanding of the musculoskeletal, craniosacral and visceral connections, trace lesional chains and successfully treat C0-C1, C1-C2 and hyoid bone dysfunctions.

Module 1 – Anatomy review and biomechanics:

Anatomy review of C0-C1, C1-C2 and hyoid bone with their anatomically related structures. Biomechanics of C0-C1 and C1-C2.

Module 2 – Osteopathic considerations:

Osteopathic concepts on the hyoid bone. Postural considerations on the hyoid bone. The floor of the mouth. C0-C1 and C1-C2 relevance in posture, mobility of the cervical spine, passage of nervous and vascular structures. Musculoskeletal and craniosacral relations.

Module 3 – Practice:

Diagnosis and treatment of C0-C1, C1-C2 and hyoid bone dysfunctions through myofascial techniques, listening techniques, functional techniques, and fascial release techniques.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Collected papers of Viola Frymann" – Viola Frymann.

- “Applied anatomy” – M.E. Clark.

Unit 2 - FOOT

Course objectives:

- To diagnose and treat musculoskeletal dysfunctions in the foot, based on the osteopathic understanding of its relations.

Learning outcome:

- To understand the normal and abnormal mechanics in the foot complex through the osteopathic perspective.
- To diagnose and treat musculoskeletal dysfunctions in the structures contained in the foot.

Module 1 – Anatomy and biomechanics review:

Anatomical review. Biomechanics of the foot joints.

Module 2 – Osteopathic approach:

Osteopathic concepts for the diagnosis and treatment of the structures of the foot. Osteopathic relationships.

Module 3 – Practice:

Diagnostic concepts and assessments. Muscle energy techniques. Mobilization techniques. Myofascial techniques. Listening treatments.

Suggested reading:

- “Greenman’s principles of manual medicine” – L.A. DeStefano.
- “Atlas of osteopathic techniques” – A.S. Nicholas.
- “Muscle energy techniques” – L. Chaitow.

PAPER 2: Cranial 4

Paper code – MSOP402

Credit points - 2

Unit 1 - FLUIDIC APPROACHES

Course objectives:

- To acquaint the students with Sutherland's late life approach as well as with contemporary approaches to biodynamics cranial osteopathy.
- To provide the theoretical and practical knowledge for the treatment of the eyes.

Learning outcome:

- To understand the development of osteopathy in the cranial field from its initial stages until our time, by following the trail of the work of Sutherland, Becker and Jealous.
- To effectively diagnose and treat osteopathic dysfunctions in the orbit and eye.

Module 1 – History and Philosophy of cranial osteopathy.

Sutherland's, Becker's, Jealous's philosophies. Contemporary contributions.

Module 2 – Practice.

The middle tide. The long tide. Integration of the tides in the complete osteopathic approach. Diagnosis and treatment of the orbit. Diagnosis and treatment of the eye.

Suggested reading:

"Osteopathy in the cranial field" - H. Magoun.

"The cranial bowl" – W.G. Sutherland.

"Contributions of thought" – W.G. Sutherland.

"Cranial Osteopathy" – T. Liem.

"Collected papers of Viola Frymann" – Viola Frymann.

"Life in motion" – R. Becker.

PAPER 3: Visceral 3

Paper code – MSOP403

Credit points – 3

Unit 1 - REPRODUCTIVE SYSTEM

Course objectives:

- To acquaint the student with the environmental, biochemical, structural biodynamic aspects of dysfunction in the uterus, ovaries and prostate.
- To provide diagnostic assessments and treatment tools to enhance the mobility and motility of these organs in their context with the related musculoskeletal, visceral and craniosacral elements.

Learning outcome:

- To develop an understanding of the uterus, ovaries, and prostate in the osteopathic visceral approach while considering its musculoskeletal, visceral and craniosacral relations.
- To effectively treat uterus, ovaries, and prostate osteopathic dysfunctions.

Module 1 – Anatomy and physiology review:

Anatomy and physiology review of the uterus, ovaries and prostate.

Module 2 – Osteopathic considerations:

Uterus, ovaries and prostate osteopathic considerations. Musculoskeletal, craniosacral and visceral relations.

Module 3 – Practice:

Osteopathic dysfunctions of the uterus, ovaries and prostate. Mobility and motility of the uterus, ovaries and prostate. Diagnostic methods and assessments. Treatment of the uterus, ovaries and prostate dysfunctions through functional techniques, fascial techniques and listening techniques.

Suggested reading:

- "Visceral manipulation in osteopathy" – Eric Hebgen.
- "Visceral manipulation" – J.P. Barral.
- "Visceral manipulation 2" – J.P. Barral.
- "Urogenital manipulation" - J.P. Barral.

Unit 2 - URINARY SYSTEM

Course objectives:

- To acquaint the student with the principles of osteopathic diagnosis and treatment of the kidneys and urinary system.
- To integrate these concepts with their musculoskeletal, visceral and craniosacral relations.

Learning outcome:

- To develop an understanding of the kidneys and respiratory system osteopathic visceral approach while considering its musculoskeletal, visceral and craniosacral relations.
- To effectively treat kidneys and bladder osteopathic dysfunctions or improve its function for further purposes.

Module 1 – Anatomy and physiology review:

Review of the anatomy and physiology of the kidneys and urinary system.

Module 2 – Osteopathic approach:

Related osteopathic dysfunctions. Osteopathic concepts. Musculoskeletal, visceral and craniosacral relations.

Module 3 – Practice:

Osteopathic dysfunctions of the kidneys and bladder. Mobility and motility of the kidneys and bladder. Diagnostic methods and assessments. Treatment of the kidneys and urinary system dysfunctions through fascial techniques and listening techniques.

Suggested reading:

- “Visceral manipulation in osteopathy” – Eric Hebgen.
- “Visceral manipulation” – J.P. Barral.
- “Visceral manipulation 2” – J.P. Barral.
- “Collected papers of Viola Frymann” – Viola Frymann.
- “Urogenital manipulation” - J.P. Barral.

PAPER 4: Osteopathic Paediatrics

Paper code – MSOP404

Credit points - 2

Unit 1 - INTRODUCTION TO PAEDIATRICS OSTEOPATHY

Course objectives:

- To acquaint the student with the basic principles of the paediatrics field in osteopathy.
- To provide an experience for the student to recogniSe in paediatric patients the main areas of dysfunction according to osteopathic diagnosis, and to effectively treat them.

Learning outcome:

- To understand the fundamentals of osteopathic treatment in the paediatrics field.
- To be able to, when pertinent, provide effective osteopathic treatment to new-borns and infants.

Module 1 – Anatomy review:

Anatomy of the skull in the new-born and the infant. Birth process. Visceral dimensions in the new – born and infant. Anatomical review of development.

Module 2 – Osteopathic approach in paediatrics:

The three spheres in the infant. Therapeutic approach in babies and infants. Dysfunctional presentations of the cranium and pelvis during birth. Common osteopathic dysfunctions in the developing musculoskeletal system. Osteopathic approach in some common paediatrics diseases.

Module 3 – Practice:

Osteopathic diagnosis and treatment of new-borns and infants.

Suggested reading:

- "Collected papers of Viola Frymann" – Viola Frymann.
- "Visceral and obstetric osteopathy" - Caroline Stone
- "An osteopathic approach to children" - J. Carreiro

PAPER 5: Integration

Paper code – MSOP405

Credit points - 4

Unit 1 - MUSCULOSKELETAL, VISCERAL AND CRANIAL INTEGRATION

Course objectives:

- To review the anatomical, physiological and osteopathic relations of all the structures learned along the program.
- To explore the different possibilities in osteopathy of connecting the structures studied under the musculoskeletal, visceral and cranial papers.
- To provide a platform where students can understand in a practical way the implications of these connections in diagnosis and treatment.
- To broaden the understanding of the osteopathic principles and philosophy in the light of the practice.

Learning outcome:

- A holistic vision of health, disease and osteopathic treatment supported by a practical understanding of the interdependence between the various systems and anatomical structures studied along the program.

Module 1 – Anatomical, physiological and osteopathic connections

Review of the anatomical, physiological and osteopathic relations of the different structures.

Module 2 – Osteopathic models

Osteopathic models as possible frameworks for integration.

Module 3 – Practice:

Diagnosis through global approaches, differentiation tests, inhibition tests, and osteopathic differential diagnosis. Global to specific and specific to global transitions.

Unit 2 - INTEGRATION OF THE THREE DIAPHRAGMS

Course objectives:

- To review the osteopathic concept of the three diaphragms.
- To provide a practical experience of the importance of the balance in tension of the three diaphragms in posture, fluid dynamics, muscular and fascial tension, and in relation with the primary respiratory mechanism.
- To diagnose and treat restrictions in the three diaphragms in an integrated approach.

Learning outcome:

- To practically understand the importance of the balance in tension of the three diaphragms and the distortions that develop after their imbalance.
- To diagnose and treat restrictions in the three diaphragms.

Module 1 – Anatomy review:

Anatomy review of the floor of the pelvis, the respiratory diaphragm and the cranial duramater.

Module 2 – Osteopathic considerations:

The dynamics of the cranial, respiratory and pelvic diaphragm. Dysfunctions, related dysfunctional chains, symptomatology. Integration of the three diaphragms and its importance in fluid dynamics, postural integrity and fascial tensions.

Module 3 – Practice:

Diagnosis and treatment of dysfunctions related to the pelvic, respiratory and cranial diaphragms.

Unit 3 - CASE PRESENTATIONS

Course objectives:

- To provide the students with a platform where they can train their communication skills by presenting in front of their pairs.
- A space for the students to exercise osteopathic reasoning while synthesising their experience in clinic, expressing their understanding and debating with faculty and other students.

Learning outcome:

- An increased capacity of expressing the process behind the practice of osteopathy.
- An enhanced understanding of osteopathic principles, philosophy, diagnosis and treatment through the discussions and debates.

Module 1 - Case presentations:

Presentation and discussion of clinical cases.

Suggested reading:

- “Philosophy of osteopathy” – Andrew Taylor Still.
- “The philosophy and mechanical principles of osteopathy” – Andrew Taylor Still.
- “Osteopathy: research and practice” – Andrew Taylor Still.
- “Contributions of Thought” = W.G. Sutherland
- “Collected papers of Viola Frymann” – Viola Frymann.
- “Osteopathy - models for diagnosis, treatment and practice” - J. Parlons, N. Marcer
- “Greenman’s principles of manual medicine” = L. DeStefano

PAPER 6: Thesis

Paper code – MSOP406

Credit points - 6

Course objectives:

- To practically implement the knowledge gained through research methodology and biostatistics in the research process of osteopathy.
- To gain deeper insights into current research and developments in the field of osteopathy.
- Developing more in-depth knowledge of osteopathic practice.

Learning outcomes:

- To independently conduct a research in their respective area of interest in the field of Osteopathy.
- Formulating research questions and hypotheses, and operationalise them. Can create and implement a research plan adequate to the research question.
- Gaining advanced research skills encompassing construction of research tools and conducting experiments, which allow for solving complex problems in the field of Osteopathy.
- To acquire oral presentation skills, and can prepare a presentation in the form of a research report or conference poster.

PAPER 7: Clinical practice – 250 hours

Paper code – MSOP407

Value added course: Accessory osteopathic techniques

Paper code – MSOP407

Credit points - 2

Course objectives:

- To acquaint the student with an understanding of the development of the techniques strain-counterstrain, deep transverse massage and trigger points.
- To acquaint the student with the physiology behind these families of techniques, their scope of application, limitations and contraindiactions.
- To provide the student with an introductory experience of some techniques under each of these categories, that will then be developed under the other musculoskeletal units.

Learning outcome:

- An in depth understanding of the development, scope, limitations and contraindications of high velocity low amplitude, strain-counterstrain, deep transverse massage, and trigger point techniques.
- An understanding of the physiology, mechanism of action, and process for each of these families of techniques.
- A practical familiarisation in palpation for each of these techniques, that will be further developed in the following musculoskeletal units.

Module 1 - High velocity low amplitude:

Origin and development. Physiology and mode of action. Applications. Limitations. Contraindications. Practice.

Module 1 - Strain-counterstrain:

Origin and development. Physiology and mode of action. Applications. Limitations. Contraindications. Practice.

Module 1 - Deep transverse massage:

Origin and development. Physiology and mode of action. Applications. Limitations. Contraindications. Practice.

Module 1 - Trigger points:

Origin and development. Physiology and mode of action. Applications. Limitations. Contraindications. Practice.

Suggested reading:

- "Greenman's principles of manual medicine" – L.A. DeStefano.
- "Atlas of osteopathic techniques" – A.S. Nicholas.
- "Textbook of orthopaedic medicine" - J. Cyriax
- "Positional release techniques" - L. Chaitow

SEMESTER 4								
Nature of the Course	**Course/Subject**	**Course Code**	**Total Credits**	**Credits**	**Examination and Marks Distribution**			
					Internal Assessment	**End Term Examination**		**Total Points**
					Mid semester Exam	**Theory**	**Practical**	
CC-18	Musculoskeletal V	MSOP401	4	4T	40	60		100
CC-19	Cranial IV	MSOP402	2	2T	20	30		50
CC-20	Visceral III	MSOP403	3	3T	30	45		75
CC-21	Osteopathic Pediatrics	MSOP404	2	2T	20	30		50
CC-22	Integration	MSOP405	4	4T	40	60		100
CC-23	Thesis	MSOP 406	6	6P	50		100	150
AECC-1	Accessory osteopathic techniques	MSOP 407	2	2T	20		30	50
CC-24	Clinical Practice	MSOP 408	8	8P			200	200
Total Credits of Semester 4			**31**		**Total Points of Semester 4**			**775**
INTERNSHIP - 3 Months (350 Clinical Practice Hours)								