MANIPAL
ACADEMY of HIGHER EDUCATION
(Deemed to be University under Section 3 of the UGC Act, 1956)

Manipal College of Health Professions

Manipal Academy of Higher Education, Manipal

Outcome-Based Education (OBE) Framework

Four and a half years Full-time Undergraduate Program

Bachelor of Occupational Therapy (BOT)

With effect from July 2020

T A B L E O F C O N T E N T S

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**

1. NATURE AND EXTENT OF THE PROGRAM

Occupational therapy is a profession that promotes health through participation in activities that individuals want to do, need to do, and/or are expected to do. It enables engagement in different occupations often overcoming barriers posed by age, physical, and mental illness. Through successful engagement, it helps individuals achieve a sense of well-being and quality of life.

The Department of Occupational Therapy at Manipal started in 1972 as a clinical department of Kasturba Hospital. The Bachelor of Occupational Therapy (BOT) program commenced in 1994 as an annual program under Kasturba Medical College, MAHE. In 1999, the BOT program moved to the newly formed School of Allied Health Sciences. The Master of Occupational Therapy (MOT) program commenced in 2002. In 2016, the BOT program moved to the semester scheme and in 2018, the MOT program moved to semester scheme.
The BOT program aims to nurture and enable students to become competent occupational therapists who will provide quality services to their clients, enable them to engage and participate in valued occupations and enhance their quality of life. The program duration is of four and a half years, which includes eight semesters of academic classes, clinical fieldwork and other learning experiences, and a six month supervised internship in which the student learns to become an independent clinician.

In accordance with the MAHE vision of providing quality education and services, the Department of Occupational Therapy continuously endeavours to be a leading centre for occupational therapy education, clinical services and research, nationally and internationally. The academic programs are upgraded and revised at regular intervals. The department strives to create an environment conducive to learning and growth. It focusses on the holistic development of students through experiential learning involving various curricular and extra-curricular activities. At the time of their graduation, students are competent to practice in the challenging world of health care.

2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objectives of the learning outcome-based curriculum framework (LOCF) for Bachelor of Occupational Therapy (BOT) Program are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to use their fundamental knowledge and competence in occupational therapy, as and when required to achieve professional excellence.
PEO 2	Students will demonstrate strong and well defined clinical and reasoning skills in occupational therapy
PEO 3	Students will be able to practice as occupational therapists who have inculcated a highly professional and ethical attitude, strong communication skills, and effective professional skills to work in an inter-disciplinary team.
PEO 4	Students will be able to use interpersonal and collaborative skills to identify, assess and formulate solutions to problems and execute the solution
PEO 5	Students will be able to imbibe the culture of research, innovation, entrepreneurship and incubation.
PEO 6	Students will be able to participate in a lifelong learning process for a highly productive career and will be able to practice the concepts of occupational therapy, for serving society for good.

3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1.	**Professional Knowledge**	Demonstrate **scientific knowledge and understanding** to work as a health care professional
2.	**Clinical / technical / Laboratory / practical skills**	Demonstrate **clinical and practical skills** in order to implement the preventive, assessment and management plans for delivering quality health care services
3.	**Communication**	Ability to communicate effectively and appropriately in writing and orally to patients/clients, care-givers, other health professionals and other members of the community
4.	**Cooperation/Team work**	Ability to work effectively and respectfully with interdisciplinary team members to achieve coordinated, high quality health care
5.	**Professional ethics**	Ability to identify ethical issues and apply ethical values in professional life
6.	**Research / Innovation-related Skills**	Ability to conduct inquiry and investigation for raising relevant and contemporary questions, synthesizing and articulating appropriate information
7.	**Critical thinking and problem solving**	Ability to think critically and apply one's learning to real-life situations
8.	**Reflective thinking**	Ability to employ reflective thinking along with the ability to create a sense of awareness of oneself and society
9.	**Information/digital literacy**	Ability to use ICT in a variety of learning situations
10.	**Multi-cultural competence**	Ability to effectively engage in a multicultural society and interact respectfully
11.	**Leadership readiness/qualities**	Ability to respond in an autonomous and confident manner planned and uncertain situations, and should be able to manage themselves and others effectively
12.	**Lifelong Learning**	Ability to be a lifelong learner who consistently updates himself or herself with current knowledge, skills and technologies. Ability to acquire knowledge and understand that learning will continue throughout life.

4. QUALIFICATION DESCRIPTORS:

a) Demonstrate (i) A fundamental and systematic knowledge and understanding of the field of occupational therapy as a whole and its applications, and links to related disciplinary areas/subjects of study; including a critical understanding of the established theories, principles and concepts, and of a number of advanced and emerging issues in the field of occupational therapy; (ii) Procedural knowledge that creates different types of professionals related to occupational therapy, including research and development, teaching and in government and public service; (iii) Professional and communication skills in the domain of occupational therapy, including a critical understanding of the latest developments, and an ability to use established techniques in the domain of occupational therapy.

b) Demonstrate comprehensive knowledge about occupational therapy, including current research, scholarly, and/or professional literature, relating to essential and advanced learning areas pertaining to occupational therapy, and techniques and skills required for identifying problems and issues.

c) Demonstrate skills in i) identifying the issues of health care needs; ii) collection of quantitative and/or qualitative data relevant to client's needs and professional practice; iii) analysis and interpretation of data using methodologies as appropriate for formulating evidence based hypotheses and solutions

d) Use knowledge, understanding and skills for critical assessment of a wide range of ideas and complex problems and issues relating to the occupational therapy program.

e) Communicate appropriately with all stakeholders, and provide relevant information to the members of the healthcare team

f) Address one's own learning needs relating to current and emerging areas of study, making use of research, development and professional materials as appropriate, including those related to new frontiers of knowledge

g) Apply one's disciplinary knowledge and transferable skills to new/unfamiliar contexts and to identify and analyse problems and issues and seek solutions to real-life problems

5. PROGRAM OUTCOMES (POs):

After successful completion of Bachelor of Occupational Therapy program, students will:

PO No.	Attribute	Competency
PO 1	**Professional knowledge**	Possess and acquire scientific knowledge about health, well-being and occupation, with an emphasis on the relationship between the person, environment and occupation
PO 2	**Clinical/ Technical skills**	Demonstrate and possess clinical skills to practice occupational therapy by applying professional reasoning and behaviours as relevant to the context of practice in a person-centered, collaborative, occupation-focused and holistic manner.
PO 3	**Team work**	Demonstrate team work skills to support shared goals with the interdisciplinary health care team to improve societal health and to practice in a manner congruent with the local, national and international context of health care
PO 4	**Ethical value & professionalism**	Possess and demonstrate ethical values and professionalism within the legal framework of the society
PO 5	**Communication**	Communicate effectively and appropriately with the interdisciplinary health care team, stakeholders and the society, at large
PO 6	**Evidence based practice**	Demonstrate high quality evidence based practice that leads to excellence in professional practice in an evidence-based manner (including applying theories, principles and research findings to provide occupational therapy to individuals, organisations and communities)
PO 7	**Life-long learning**	Enhance knowledge and skills with the use of advancing technology for the continual improvement of professional practice
PO 8	**Entrepreneurship, leadership and mentorship**	Display entrepreneurship, leadership and mentorship skills to practice independently as well as in collaboration with the interdisciplinary health care team

6. COURSE STRUCTURE, COURSE-WISE LEARNING OBJECTIVES, COURSE OUTCOMES (COs)

SEMESTER - I

Course Code	Course Title	Credits Distribution (L, T, P & CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
ANA1101	Anatomy - I	3	--	--	--	3	30	70	100
ANA1111	Anatomy Practical - I	--	--	4	--	2	30	70	100
PHY1101	Physiology- I	2	--	--	--	2	30	70	100
OCT1101	Introduction to Occupational Therapy	3	1	--	--	4	50	50	100
OCT1102	Basic Competencies for Occupational Therapists- I	1	2	--	--	3	50	50	100
OCT1131	Clinical Fieldwork-I	--	--	--	18	6	100	--	100
	TOTAL	**9**	**3**	**4**	**18**	**20**	**290**	**310**	**600**

Note: ESE for ANA1101, ANA1111 and PHY1101 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT1101 & OCT1102 will be conducted for 100 marks and normalized to 50 marks.

SEMESTER - II

Course Code	Course Title	Credits Distribution (L, T, P & CL are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
ANA1201	Anatomy - II	2	-	-	-	2	30	70	100
ANA1211	Anatomy Practical - II	-	-	4	-	2	30	70	100
PHY1201	Physiology - II	2	-	-	-	2	30	70	100
BIC1201	Biochemistry	3	-	-	-	3	30	70	100
CSK1001	Communications Skills	2	-	-	-	2	100	--	100
EIC1101	Environmental Science & Indian Constitution	2	-	-	-	2	100	--	100
OCT1201	Assessments in Occupational Therapy- I	2	-	-	-	2	50	50	100
OCT1211	Assessments in Occupational Therapy- I (Practical)	-	-	4	-	2	50	50	100
OCT1202	Basic Competencies for Occupational Therapists- II	1	2	-	-	3	100	-	100
	TOTAL	**14**	**2**	**8**	**-**	**20**	**520**	**380**	**900**

Note: Note: ESE for ANA1201, ANA1211, PHY1201 and BIC1201 will be conducted for 50 marks and normalized to 70 marks. IAC for CSK 1001, EIC1001, and OCT1202 will be conducted for 50 marks and normalized to 100 marks for grading. ESE for OCT1211 will be conducted for 100 marks and normalized to 50 marks.

SEMESTER - III

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PAT2103	Pathology	3	--	--	--	3	30	70	100
MCB2102	Microbiology	2	--	--	--	2	100	--	100
OCT2101	Biomechanics and Kinesiology	2	1	--	--	3	50	50	100
OCT2102	Assessments in Occupational Therapy- II	2	1	--	--	3	50	50	100
OCT2111	Assessments in Occupational Therapy- II (Practical)	--	--	4	--	2	50	50	100
OCT2151	Occupational Therapy Project	--	--	4	--	2	100	--	100
OCT2131	Clinical Fieldwork- II	--	--	--	6	2	100	--	100
*** ****	Open Elective - I	-	--	--	--	3	S/NS		
TOTAL		**9**	**2**	**8**	**6**	**20**	**480**	**220**	**700**

Note: ESE for PAT2103 will be conducted for 50 marks and normalized to 70 marks. IAC for MCB2102 will be conducted for 50 and normalised to 100. ESE for OCT2101, OCT2102 and OCT2111 will be conducted for 100 marks and normalized to 50 marks.

SEMESTER - IV

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
PHC2203	Pharmacology	3	--	--	--	3	30	70	100
CPY2201	Clinical Psychology	3	--	--	--	3	30	70	100
OCT2201	Development Across the Life Span	2	1	--	--	3	50	50	100
OCT 2202	Activities and Occupations	3	--	--	--	3	50	50	100
OCT 2211	Activities and Occupations (Practical)	--	-	4	--	2	50	50	100
OCT2231	Clinical Fieldwork- III	--	--	--	18	6	100	--	100
TOTAL		**11**	**1**	**4**	**18**	**20**	**310**	**290**	**600**

Note:
ESE for PHC2202 and CPY2201 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT2201, OCT2202, and OCT2211 will be conducted for 100 marks and normalized to 50 marks.

SEMESTER - V

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
NEP3101	Neurosciences and Paediatrics	3	--	--	--	3	30	70	100
ORT3101	Orthopaedics	2	--	--	--	2	30	70	100
OCT3101	Occupational Therapy Interventions	2	--	--	--	2	50	50	100
OCT3111	Occupational Therapy Interventions (Practical)	--	--	4	--	2	50	50	100
OCT3102	Enabling Occupations	3	--	--	--	3	50	50	100
OCT3131	Clinical Fieldwork- IV	--	--	--	15	5	100	--	100
*** ****	Open Elective- II	-		--	--	3	S/NS		
	TOTAL	**10**	**0**	**4**	**15**	**20**	**310**	**290**	**600**
Note: Note: ESE for NEP3101 and ORT3101 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT3111 and OCT3102 will be conducted for 100 marks and normalized to 50 marks.									

SEMESTER - VI

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
BST3201	Biostatistics and Research Methodology	3	--	--	--	3	30	70	100
MED3201	General Medicine	3	--	--	--	3	30	70	100
OCT3221	Occupational Therapy in Orthopaedics and Surgical Conditions	2	--	2	--	3	50	50	100
OCT3222	Occupational Therapy in Neurological, Geriatric and Medical Conditions	2	--	2	--	3	50	50	100
OCT****	Program Elective - I	2	1	--	--	3	50	50	100
OCT3231	Clinical Fieldwork- V	-	--	--	15	5	50	50	100
	TOTAL	**12**	**1**	**4**	**15**	**20**	**260**	**340**	**600**
Note: ESE for BST3201 and MED3201 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT3221, OCT3222, and OCT3231 will be conducted for 100 and normalised to 50.									

SEMESTER - VII

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
SUR4101	General Surgery	3	--	--	--	3	30	70	100
CMS4102	Community Medicine and Sociology	3	--	--	--	3	30	70	100
OCT4101	Occupational Therapy Practice Issues	3	--	--	--	3	50	50	100
OCT4102	Occupational Therapy in Community Practice	3	--	--	--	3	50	50	100
OCT4103	Evidence Based Practice-I	2	1	--	--	3	100	--	100
OCT4131	Clinical Fieldwork- VI	-	--	--	15	5	100	--	100
	TOTAL	**14**	**1**	**--**	**15**	**20**	**360**	**240**	**600**
Note: ESE for SUR4101 and CMS4102 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT4101 and OCT4102 will be conducted for 100 marks and normalized to 50 marks.									

SEMESTER - VIII

Course Code	Course Title	Credits Distribution (L, T & P are hours/week)					Marks Distribution		
		L	T	P	CL	CR	IAC	ESE	Total
CPS4201	Clinical Psychiatry	2	-	-	--	2	30	70	100
OCT4221	Occupational Therapy for Children	3	-	2	--	4	50	50	100
OCT4222	Occupational Therapy in Mental Health	3	-	2	--	4	50	50	100
OCT4202	Evidence Based Practice-II	-	2	--	--	2	100	--	100
OCT ****	Program Elective - II	2	1	--	--	3	50	50	100
OCT4231	Clinical fieldwork- VII	-	-	--	15	5	50	50	100
	TOTAL	**10**	**3**	**4**	**15**	**20**	**330**	**270**	**600**
Note: ESE for CPS4201 will be conducted for 50 marks and normalized to 70 marks. ESE for OCT4221, OCT4222, and OCT4231 will be conducted for 100 marks and normalized to 50 marks. IAC for OCT 4201 will be conducted for 50 marks and normalized to 100 marks.									

Open Electives

Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department

Program Electives

Program elective is credited and choice-based. The students make a choice from pool of electives offered by the department. The ESE is conducted for 50 marks.

Semester	Course Code	Course Title	L	T	P	CR
VI	OCT3241	Orthotics in Occupational Therapy	2	1	-	3
VI	OCT3242	Ageing and Occupational Therapy	2	1	-	3
VIII	OCT4241	School Based OT	2	1	-	3
VIII	OCT4242	Occupational Therapy in Mental Health Promotion and Prevention	2	1	-	3

SEMESTER IX - INTERNSHIP

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Duration: 6 months (1248 hours)

Semester IX	**Internship**	Duration 6 months 48 hours in a week / 8 hours in a day

PROGRAM OVERALL CREDIT DISTRIBUTION FOR BOT

Semester	**Hours per week**				**Total Credits**	**Marks**		
	L	**T**	**P**	**CL**		**IAC**	**ESE**	**Total**
Semester - I	9	3	4	18	20	290	310	600
Semester - II	14	2	8	-	20	520	380	900
Semester - III	9	2	8	6	20	480	220	700
Semester - IV	12	1	2	18	20	310	290	600
Semester - V	11	-	2	15	20	310	290	600
Semester - VI	12	1	4	15	20	260	340	600
Semester- VII	14	1	-	15	20	360	240	600
Semester- VIII	10	3	4	15	20	330	270	600
Semester- IX	-	-	-	48	-	-	-	-
Total	**91**	**13**	**32**	**150**	**160**	**2860**	**2340**	**5200**

Internal assessment component (IAC) weightage distribution

THEORY		**PRACTICAL**	
Components	**%**	**Components**	%
Mid semester exam	50	Mid semester exam	50
Class seminar	20	Record submission	30
Assignments/Quiz	30	Competency in bench mark	20

SEMESTER - I

COURSE CODE	**:**	**Course TITLE**
ANA1101	**:**	**Anatomy - I**
ANA1111	**:**	**Anatomy Practical - I**
PHY1101	**:**	**Physiology - I**
OCT1101	**:**	**Introduction to Occupational Therapy**
OCT1102	**:**	**Basic Competencies for Occupational Therapists - I**
OCT1131	**:**	**Clinical Fieldwork- I**

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Anatomy - I**
Course Code	**ANA1101**
Academic Year	First Year
Semester	I
Number of Credits	3
Course Prerequisite	Basic knowledge of biology
Course Synopsis	Human anatomy is the study of gross features and relations of various structures of the human body by dissection.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the General Anatomy in the human body (C2)
CO2	Explain the Systemic Anatomy of the human body (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	**x**							
CO2	**x**							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours (Theory)**
Unit 1:		
General Anatomy	• Define the Anatomical position and Anatomical terms (C1) • Explain the epithelium - types and functions (C2) • Explain the connective tissue - fibers and cells (C2) • Explain the cartilage - types, structure and function (C2) • Explain the bone - types, structure and blood supply (C2) • Explain the muscle - classification, structure and function (C2) • Explain the neurons- types and structure, typical spinal nerve (C2) • Explain the blood vessels - arteries, veins, lymph vessels, lymph nodes, structure of lymph node (C2) • Explain the joints: Classification, examples, structure of a typical synovial joint (C2) • Explain the classification of synovial joints (C2)	7
Unit 2:		
Respiratory system	• List the parts of respiratory tract (C1) • Explain the boundaries of the Nasal cavity (C2)	5

Content	Competencies	Number of Hours (Theory)
	• Explain the Lateral wall of nasal cavity - features, blood supply, nerve supply and lymphatic drainage (C2) • Explain the nasal septum: Formation, blood supply, nerve supply, lymphatic drainage and applied anatomy (C1, C2) • List and Explain the paranasal air sinuses and their function (C1, C2) • Explain the pharynx - extent, parts- nasopharynx , oropharynx and laryngopharynx - internal features (C2) • Explain the cavity of larynx, blood supply, nerve supply (C1, C2) • Explain the vocal cords and their movements, and Rima glottidis (C2) • List the intrinsic muscles of the larynx, their nerve supply and actions (C1) • List the Cartilaginous framework and ligaments (C1) • Explain the trachea: Extent, Structure and nerve supply (C2) • Explain the diaphragm - attachments, nerve supply and actions (C2) • Explain the thoracic cage: thoracic wall, intercostal spaces and their contents (C1, C2) • Explain the Lungs- gross anatomy, roots of the lungs, surface marking of pleura and lungs (C1, C2) • Explain the pleura- parts, pleural cavity, pleural recesses, pulmonary ligament (C2)	
Unit 3:		
Cardiovascular system	• Explain the heart - position, external features, right atrium internal features (C1, C2) • Explain the right ventricle internal features, Blood supply to the heart (C1, C2) • Explain the left atrium and left ventricle, nerve supply of heart (C2) • Explain the pericardium - Parts, blood supply, nerve supply and function (C2) • Explain the mediastinum - boundaries and contents (C2) • List and explain the arteries - Arch of aorta and descending thoracic aorta (extent course and branches) (C1, C2) • Explain the veins -Azygos system of vein (formation, course and termination) (C1, C2) • Define the thoracic duct: formation, course and termination (C2) • Explain the arteries - pulmonary trunk, ascending aorta (extent course and branches) (C2) • Explain the veins - branchiocephalic veins, superior	4

Content	Competencies	Number of Hours (Theory)
	vena cava (formation, course and termination) (C2) • Explain the major arteries and veins of head and neck (name and positions) (C2) • Explain the major arteries and veins of abdomen and pelvis (name and positions) (C2) • Explain the abdominal aorta, inferior vena cava, portal vein (C1, C2)	
Unit 4:		
Digestive system	• List the parts of digestive system (C1) • Explain the tongue - gross anatomy, blood supply and nerve supply (C2) • Explain the salivary glands- Names and location (C2) • Explain the oesophagus- extent, parts, constrictions, blood supply, nerve supply and lymphatic drainage (C2) • Explain the stomach- position, relations, blood supply, nerve supply and lymphatic drainage (C1, C2) • Explain the duodenum- parts, important relations, blood supply and nerve supply (C2) • Explain the pancreas – position, parts, important relations, blood supply and nerve supply (C2) • Explain the small intestine – parts- duodenum, jejunum and ileum- blood supply and nerve supply (C1, C2) • Explain the large intestine – parts, position of each of the parts, extent, blood supply and nerve supply (C2) • List the differences between jejunum and ileum (C1) • List the differences between small intestine and large intestine (C1) • Explain the rectum and anal canal-position, blood supply, nerve supply and lymphatic drainage (C2) • Explain the liver- position, anatomical and physiological lobes, surfaces, relations, porta hepatis, blood supply and nerve supply (C1, C2) • Explain the extrahepatic biliary apparatus – gall bladder and bile duct (C2)	6
Unit 5:		
Urinary system	• List the parts of urinary system (C1) • Explain the kidneys: position, external features, capsules, relations, macroscopic structure, blood supply and nerve supply (C1, C2) • Explain the ureter- length, constrictions and blood supply (C2) • Explain the urinary bladder- position, external features, blood supply and nerve supply (C2) • Explain the urethra- female urethra, male urethra- parts (C2)	2

Content	Competencies	Number of Hours (Theory)
Unit 6:		
Male reproductive system	• List the parts of male reproductive system (C1) • List the spermatic cord- constituents and coverings (C1) • Explain the testes- position, coverings, gross structure, blood supply, nerve supply and lymphatic drainage (C2) • Explain the vas deferens- commencement, course and termination (C2) • Explain the prostate – position, external features, lobes and structure (C2) • Explain the seminal vesicles and ejaculatory ducts (C2)	2
Unit 7:		
Female reproductive system	• Name the parts of female reproductive system (C1) • Explain the uterus-position, parts, external features, relations, blood supply and lymphatic drainage (C2) • Explain the uterine tube- parts, blood supply and nerve supply (C2) • Explain the ovary – position and structure (C2)	2
Unit 8:		
Endocrine glands	• Name the endocrine glands (C1) • Explain the pituitary gland (Hypophysis cerebri)- position, parts, blood supply (C2) • Explain the suprarenal glands- position, relations, parts, blood supply and lymphatic drainage (C2) • Explain the thyroid gland- position, parts, blood supply and lymphatic drainage (C2) • Name the parathyroid glands-their position and blood supply (C1)	2
Unit 9:		
Central Nervous system	• Name the parts of the CNS (C1) • List the features and explain the spinal cord- position, external features, internal structure, brief note on important ascending and descending tracts (C1, C2) • Explain the major motor and sensory pathways (C2) • Explain the pyramidal tract in detail (C2) • Name the parts of brain (C2) • List the external and internal features of medulla oblongata (C1) • List the cranial nerves attached to medulla oblongata (C1) • List the external and internal features pons (C1) • Explain the cranial nerves attached to pons and ponto-medullary junction (C2) • Explain the cerebellum- functional lobes of the	12

Content	Competencies	Number of Hours (Theory)
	cerebellum and its functions (C2) • Explain the midbrain- external features and internal structure – in brief (C1) • Explain the cranial nerves attached to midbrain (C2) • Explain the cerebral hemispheres – lobes, important sulci and functional areas (C2) • List the fiber system of the brain and explain the corpus callosum and internal capsule (C1, C2) • Explain the diencephalon- Thalamus and hypothalamus-position and functions (C2) • Explain the basal nuclei: Corpus striatum – parts and functions (C2) • Explain the blood supply to the central nervous system (C2) • Explain the ventricles: 4th and 3rd ventricles (features, position and communications) (C2) • Explain the lateral ventricles- parts, features, position and communications (C2) • Define the CSF production and circulation (C1)	
Unit 10:		
Special senses	• Recall the gross anatomy of the eye (C1) • Recall the gross anatomy of external, middle and internal ear (C1) • Recall the skin and its features (C1)	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical		
Revision		
Assessment		
Total	**45**	**135**

Assessment Methods:	
Formative:	**Summative:**
	Sessional Exam I & II
	End Semester Exam (Theory)

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	x	x				
Sessional Examination 2	x	x				
End Semester Exam	x	x				
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. Madhyastha S. Manipal Manual of Anatomy. New Delhi: CBS Publishers					
Additional References	1. Chaurasia BD.Human Anatomy. New Delhi: CBS Publishers (Vol 1,2,3,4) 2. Chaurasia BD. Handbook of general human anatomy. New Delhi: CBS Publishers 3. Netter F. Atlas of Human Anatomy. Elsevier Health Sciences					

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Anatomy Practical - I**
Course Code	**ANA1111**
Academic Year	First year
Semester	I
Number of Credits	2
Course Prerequisite	Basic knowledge of general anatomy
Course Synopsis	Human anatomy is the study of gross features and relations of various structures of the body by dissection.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Identify and explain the General Anatomy in the human body (C1, P1)
CO2	Identify and explain the Systemic Anatomy of the human body (C2, P2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x						
CO2		x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
• Orientation about dissection hall, disciplines and precautionary measures to be taken during dissection sessions		
Unit 2:		
Respiratory system	• Identify the parts of respiratory tract (C1, P1) • Explain and identify the Nasal cavity under: (C2, P1) • Boundaries Lateral wall - features, blood supply, nerve supply and lymphatic drainage Nasal septum: Formation, blood supply, nerve supply, lymphatic drainage and applied anatomy Paranasal air sinuses and their function • Explain and identify the pharynx under - extent, parts- nasopharynx, oropharynx and laryngopharynx - internal features (C2, P1) • Explain and identify the larynx under: (C2, P1) Cartilaginous framework and ligaments, Cavity of larynx, blood supply, nerve supply Vocal cords and their movements Rima glottidis Names of the intrinsic muscles of the larynx,	12

Content	Competencies	Number of Hours
	their nerve supply and actions • Explain and identify the thoracic cage: thoracic wall, intercostal spaces and their contents (C2, P1) • Explain and identify the mediastinum - boundaries and contents (C2, P1) • Explain and identify the diaphragm - attachments, nerve supply and actions (C2, P1) • Explain and identify the trachea: Extent, Structure and nerve supply (C2, P1) • Define and identify the pleura- parts, pleural cavity, pleural recesses, pulmonary ligament (C1, P1) • Explain and identify the lungs- gross anatomy, roots of the lungs, surface marking of pleura and lungs (C2, P1)	
Unit 3:		
Cardiovascular system	• Explain and identify the pericardium – parts, blood supply, nerve supply and function (C2, P1) • Explain and identify heart – position, external features (C2, P2) • Explain and identify right atrium, left atrium, right ventricle & left ventricle- internal features (C2, P2) • Explain and identify blood supply to the heart and nerve supply of heart (C2, P2) • Vessels • Explain and identify the arteries – Arch of aorta, pulmonary trunk, ascending aorta and descending thoracic aorta (extent course and branches) (C1, P1) • Explain and identify the major arteries and veins of head and neck (name and positions) (C1, P1) • Explain and identify the major arteries and veins of abdomen and pelvis (name and positions) (C1, P1) • Explain and identify the abdominal aorta- (extent course and branches) (C1, P1) • Explain and identify the veins –Azygos system of vein, branchiocephalic veins, superior vena cava, inferior vena cava, portal vein (formation, course and termination) (C1, P1) • Explain and identify the thoracic duct: formation, course and termination (C1, P1)	4
Unit 4:		
Digestive system	• Explain and identify the tongue – gross anatomy, blood supply and nerve supply (C1, P1)	4

Content	Competencies	Number of Hours
	• Explain and identify the salivary glands: Location (C1, P1) • Explain and identify the oesophagus- extent, parts, constrictions, blood supply, nerve supply and lymphatic drainage (C1, P1) • Explain and identify the stomach- position, relations, blood supply, nerve supply and lymphatic drainage (C1, P1) • Explain and identify the small intestine – parts- duodenum, jejunum and ileum- blood supply and nerve supply (C1, P1) • Explain and identify the duodenum- parts, important relations, blood supply and nerve supply (C1, P1) • Explain and identify the large intestine – parts, position of each of the parts, extent, blood supply and nerve supply (C1, P1) • List the differences between jejunum and ileum (C1, P1) • List the differences between small intestine and large intestine (C1, P1) • Explain and identify the rectum and anal canal- position, blood supply, nerve supply and lymphatic drainage (C1, P1) • Explain and identify the pancreas – position, parts, important relations, blood supply and nerve supply (C1, P1) • Explain and identify the liver- position, anatomical and physiological lobes, surfaces, relations, porta hepatis, blood supply and nerve supply (C1, P1) • Explain and identify the extrahepatic biliary apparatus – gall bladder and bile duct (C1, P1)	
Unit 5:		
Urinary system	• Explain and identify the kidneys: position, external features, capsules, relations, macroscopic structure, blood supply and nerve supply (C1, P1) • Explain and identify the ureter- length, constrictions and blood supply (C1, P1) • Explain and identify the urinary bladder- position, external features, blood supply and nerve supply (C1, P1) • Explain and identify the urethra- female urethra, male urethra- parts (C1, P1)	2
Unit 6:		
Male reproductive system	• Explain and identify the spermatic cord- constituents and coverings (C1, P1) • Explain and identify the testes- position,	2

Content	Competencies	Number of Hours
	coverings, gross structure, blood supply, nerve supply and lymphatic drainage (C1, P1) • Explain and identify the vas deferens- commencement, course and termination (C1,P1) • Explain and identify the prostate – position, external features, lobes and structure (C1,P1) • Seminal vesicles and ejaculatory ducts (C1,P1)	
Unit 7:		
Female reproductive system	• Explain and identify the uterus-position, parts, external features, relations, blood supply and lymphatic drainage (C1,P1) • Explain and identify the uterine tube- parts, blood supply and nerve supply (C1,P1) • Explain and identify the ovary – position and structure (C1,P1)	2
Unit 8:		
Endocrine glands	• Explain and identify the pituitary gland (Hypophysis cerebri)-position, parts, blood supply (C1,P1) • Explain and identify the suprarenal glands- position, relations, parts, blood supply and lymphatic drainage (C1, P1) • Explain and identify the thyroid gland- position, parts, blood supply and lymphatic drainage (C1, P1) • Explain and identify the parathyroid glands- position and blood supply (C1, P1)	2
Unit 9:		
Central Nervous system	• Introduction to CNS (C1) • Explain and identify the spinal cord- position, external features, internal structure, brief note on important ascending and descending tracts (C1, P1) • Explain and identify the pyramidal tract in detail (C1,P1) • Naming the parts of brain (C1, P1) • Explain and identify the external and internal features of medulla oblongata (C1, P1) • Explain and identify the cranial nerves attached to medulla oblongata (C1, P1) • Explain and identify the external and internal features pons (C1, P1) • Explain and identify the cranial nerves attached to pons and pontomedullary junction (C1, P1) • Explain and identify the cerebellum- functional lobes of the cerebellum and its functions (C1, P1) • Explain and identify the midbrain- external	12

Content	Competencies	Number of Hours
	features and internal structure – in brief (C1, P1) • Explain and identify the cranial nerves attached to midbrain (C1, P1) • Explain and identify the cerebral hemispheres – lobes, important sulci and functional areas (C1, P1) • Explain and identify the fiber system of the brain –corpus callosum and internal capsule (C1,P1) • Explain and identify the diencephalon- Thalamus and hypothalamus-position and functions (C1, P1) • Explain and identify the basal nuclei: Corpus striatum – parts and functions (C1, P1) • Explain and identify the ventricles: 4th and 3rd ventricles (features, position and communications) (C1, P1) • Explain and identify the lateral ventricles- parts, features, position and communications (C1, P1) • Explain and identify the CSF production and circulation (C1, P1) • Explain and identify the blood supply to the central nervous system (C1, P1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture		
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical (02 hrs each)	40	120
Revision	04	12
Assessment	03	09
Total	**47**	**141**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	
Quiz/ Spotters	End Semester Exam Practical
Viva	Viva
Assignments/Presentations	
Clinical assessment (OSCE, OSPE, WBPA)	
Clinical/Practical Log Book/ Record Book	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x				
Quiz / Viva	x	x				
End Semester Exam	x	x				

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Madhyastha S. Manipal Manual of Anatomy. New Delhi: CBS Publishers
Additional References	1. Chaurasia BD.Human Anatomy. New Delhi: CBS Publishers (Vol 1,2,3,4) 2. Chaurasia BD. Handbook of general human anatomy. New Delhi: CBS Publishers 3. Netter F. Atlas of Human Anatomy. Elsevier Health Sciences

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Physiology - I**
Course Code	**PHY1101**
Academic Year	First year
Semester	I
Number of Credits	2
Course Prerequisite	Basic knowledge of biology
Course Synopsis	This module provides a comprehensive knowledge about normal functions of the organ systems of the body to understand the physiological basis of health and disease required for health professional (paramedical) courses.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Know the basic facts and concepts of Physiology (C1)
CO2	Explain the normal functions of various systems of the body.(C2)
CO3	Describe the relative contribution of various systems in maintaining the homeostasis.(C2)
CO4	Explain the physiological basis of disease processes.(C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1. BASIC CONCEPTS AND NERVE PHYSIOLOGY		
Transport across cell membrane	• Name the various transport mechanisms across cell membrane(C1) • Describe passive transport mechanisms such as simple diffusion, facilitated diffusion and osmosis (C2) • Describe primary and secondary active transport mechanisms(C2)	4
Body fluid compartments	• Mention the total body water as percentage of body weight and its distribution. (C1) • Give the ionic composition of body fluids(C1)	
Physiology of neuron	• Describe the morphology of a neuron (C2) • Mention the structure and functions of myelinated and unmyelinated nerve fibers (C2)	
Membrane	• Describe resting membrane potential(C2)	

Content	Competencies	Number of Hours
potential	• Draw and label the action potential (C2) • Describe the ionic basis of the action potential (C2)	
Unit 2: MUSCLE PHYSIOLOGY		
Skeletal muscle	• Describe the characteristic features of skeletal, cardiac and smooth muscles(C2) • Describe the structure of skeletal muscles(C2) • Mention the types of skeletal muscles(C1) • Explain neuromuscular transmission in skeletal muscle(C2) • Explain excitation contraction coupling in skeletal muscle(C2) • Describe rigor mortis (C2)	4
Smooth muscle	• Mention the types of smooth muscle(C1)	
Unit 3: BLOOD		
Composition and functions of blood	• Describe the composition of blood(C2) • List the functions of blood(C1)	6
Plasma proteins	• Name the different types of plasma proteins (C1) • List the functions of plasma proteins(C1)	
Red blood cells	• Mention the morphology and functions of red blood cells (C1) • Mention the normal count of RBC and its variations (C1) • Describe the stages and factors influencing erythropoiesis(C2) • Mention the normal value of hemoglobin concentration and its variations(C1) • Mention the functions of hemoglobin (C1) • Define anemia(C1)	
White blood cells	• Classify White Blood Cells (WBC) (C2) • List the functions of WBCs(C1) • Mention the normal count of various types of WBCs (C1)	
Hemostasis	• Mention the normal range of platelets and its variations(C1) • List the functions of platelets(C1) • Define hemostasis(C1) • Describe the various stages involved in haemostasis (C2) • List the clotting factors(C1) • Describe the intrinsic and extrinsic pathways of coagulation (C2) • Describe hemophilia(C2) • Classify anticoagulants and give examples for each(C2)	

Content	Competencies	Number of Hours
Blood types/groups	• Describe the ABO and Rh systems of blood grouping(C2) • Explain the importance of blood grouping(C2) • Mention the hazards of blood transfusion(C1) • Explain the cause and clinical features of hemolytic disease of the newborn (erythroblastosis fetalis) (C2)	
Lymph	• List the functions of lymph(C1)	
Unit 4: CARDIOVASCULAR SYSTEM		
Organization of cardiovascular system	• Describe the structure of heart (C2) • Describe the innervation of heart and blood vessels(C2) • Describe the properties of cardiac muscle(C2)	9
Cardiac cycle	• Define cardiac cycle (C1) • State the normal duration of cardiac cycle (C1) • Explain the various events occurring during a cardiac cycle with the help of graphs(C2)	
Heart sounds	• Enumerate the differences between first and second heart sounds(C2)	
Electrocardiogram (ECG)	• Define electrocardiogram (ECG) (C1) • Draw a labeled diagram of a normal ECG recorded from limb lead II (C1) • Describe the waves and intervals of ECG (C2) • Mention the uses of ECG(C1)	
Heart rate	• Mention the normal value and variations of heart rate(C1) • Describe the regulation of heart rate(C2)	
Cardiac output	• Define cardiac output (C1) • State the normal value of cardiac output (C1) • Mention the variations of cardiac output(C1) • Describe the regulation of cardiac output(C2) • Mention the effect of muscular exercise on cardiac output (C1)	
Blood pressure (BP)	• Define blood pressure (BP) (C1) • Mention the normal value of BP (C1) • Mention the factors influencing BP(C1) • Mention the variations of blood pressure(C1) • Describe the short term regulation of arterial blood pressure(C2)	
Unit 5: RESPIRATORY SYSTEM		
Introduction to respiration	• Describe the functional anatomy of the respiratory system (C2)	6

Content	Competencies	Number of Hours
Mechanics of respiration	• Mention the muscles of respiration(C1) • Describe the mechanism of inspiration and expiration(C2) • Describe the intra-pulmonary and intra-pleural pressure changes during the various phases of respiration(C2)	
Lung volumes and capacities	• Draw a labelled spirogram(C2) • Define various lung volumes and capacities (C1) • Mention the normal values of lung volumes and capacities (C1)	
Ventilation	• Define pulmonary ventilation (C1) • Mention the normal value of pulmonary ventilation (C1) • Define alveolar ventilation(C1) • Mention the normal value of alveolar ventilation(C1) • Define anatomical dead space (C1) • Mention the normal value of anatomical dead space (C1)	
Gas exchange	• Describe the structure of respiratory membrane (C2) • Mention the factors affecting diffusion of gases across it (C1)	
Transport of gases	• Mention the forms in which oxygen is transported in the blood(C1) • Describe the oxygen-hemoglobin dissociation curve(C2) • Mention the factors shifting the oxygen-hemoglobin dissociation curve to the right and to the left(C1) • Mention the forms in which carbon dioxide is transported in the blood(C1) • Describe the mechanism of carbon dioxide transport(C2)	
Regulation of respiration	• Explain the neural regulation of respiration(C2) • Explain the chemical regulation of respiration(C2)	
Applied aspects	• Define hypoxia(C1) • Mention the types of hypoxia with example (C1) • Define cyanosis(C1) • Mention the cause of cyanosis (C1) • Mention the types of hypoxia in which cyanosis occurs (C2) • Define apnea, dyspnea and asphyxia(C1)	
Unit 6: SPECIAL SENSES		
Vision	• Describe the structure of human eye with the help of a diagram (C2) • Mention the functions of aqueous humor (C1) • Name the photoreceptors (C1) • Mention the differences between the rods and cones	4

Content	Competencies	Number of Hours
	(C1) • Draw the visual pathway (C2) • Explain the defects in field of vision due to lesions of visual pathway at different locations (C2) • Describe the mechanism of accommodation(C2) • Describe light reflex with the help of a diagram (C2) • Define visual acuity and mention the tests (C2) • Describe the cause and correction for refractory errors of the eye(C2)	
Hearing and vestibular apparatus	• Describe the structure and functions of external, middle and inner ear (C2) • Describe the mechanism of hearing (C2) • Mention the parts and functions of vestibular apparatus (C1)	
Taste and smell	• Name the receptors for taste and smell (C1) • Mention the disorders of taste and smell (C1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	33	99
Seminar	-	-
Small group discussion (SGD)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**33**	**99**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Viva	
Assignments/Presentations	
Clinical assessment (OSCE, OSPE, WBPA)	
Clinical/Practical Log Book/ Record Book	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x	x	x		
Sessional Examination 2	x	x	x	x		
End Semester Exam	x	x	x	x		
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					

Main Reference:	1. Venkatesh D & Sudhakar HH. Basics of Medical Physiology, 4th edition. New Delhi: Wolters Kluwer; 2018 2. ChandraShekar CN. Manipal Manual of Medical Physiology. New Delhi: CBS Publishers; 2018

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Introduction to Occupational Therapy**
Course Code	**OCT1101**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Nil
Course Synopsis	1. It introduces the philosophy and definition of occupational therapy and describes the scope and role of occupational therapy in the health care system. 2. It describes the occupational therapy domains and processes. 3. It discusses occupations and the concept of occupational practice.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Describe the philosophical and historical base of the occupational therapy profession C2
CO2	Explain the basic terms and constructs in occupational therapy C2
CO3	Outline the various aspects of the domain of occupational therapy and process of delivering occupational therapy services to clients C2
CO4	Describe occupations and their situated nature C2

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	**x**			**x**				
CO2		**x**						
CO3		**x**				**x**		
CO4	**x**							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Understanding occupational therapy, including its philosophy, history and practice settings	1. Define occupational therapy (C1) 2.Describe the clients seen in occupational therapy, and practice settings for occupational therapists (C2) 3.Describe the role of the occupational therapist in the healthcare team (C2) 4.Discuss the development of occupational therapy through different periods, with a focus on the significant persons influencing OT practice in the following period: Prehistory: 1700-1899, 1900-1919 (C2) 5.Discuss the development of occupational therapy in the	13

Content	Competencies	Number of Hours
	period of 1920-1959 (C2) 6.Discuss the development of occupational therapy in the period: 1960-1979 (C2) 7.Discuss the development of occupational therapy in the period1980-1999 (C2) 8.Discuss the development of occupational therapy in the period 2000-present (C2) 9.Name/ list out various national and international organizations in occupational therapy (C1)	
Unit 2: Basic terms and constructs relevant to occupational therapy will be defined and explained to the students		
Performance patterns	1.Define performance patterns (habits, routines) (C1) 2. Define performance patterns (roles and rituals) (C1) 3. Discuss the influence of performance patterns on occupational performance (C2) 4.Explain the concept of occupational balance and the Life Balance Model (C2)	39
Client factors	1. List client factors influencing occupational performance (body structures, body functions), values, beliefs and spirituality) (C1) 2. List client factors influencing occupational performance (values, beliefs and spirituality) (C1) 3.Outline the different client factors commonly considered in occupational therapy and methods of acquiring information about the same (C1) 4.Outline the different client factors commonly considered in occupational therapy and methods of acquiring information about the same (C1)	
Performance skills	1.Define the various performance skills contributing to occupational performance (motor, process and social interaction skills) (C1) 2.Compare and contrast performance skills and body functions (C3) 3. Discusses the concept of universal and task-specific performance skills (C2) 4. Discuss the types of performance skills (C3)	
Context and environment	1.Define the contextual and environmental factors, influence on occupational performance (C1) 2.Discuss the types of context and environment (C2)	
The evaluation process	1.Discuss the occupational therapy process (C2) 2.Summarize the different components of the evaluation process (developing an occupational profile (C2) 3.Explain the analysis of occupational performance (C2)	
Interventions in occupational therapy	1.Explain the process of planning, implementing and reviewing interventions (C2) 2. Explain intervention approaches – create/promote (C2) 3.. Explain intervention approaches – establish/restore (C2) 4. Explain intervention approaches – maintain (C2) 5. Explain intervention approaches – modify, prevent (C2)	

Content	Competencies	Number of Hours
	6.Explain intervention types – preparatory methods (C2) 7.Discuss intervention types – preparatory tasks (C2) 8.Discuss intervention types – occupations and activities (C2) 9.Explain intervention types – education and training (C2) 10.Explain intervention types – advocacy, group interventions (C2)	
Outcomes in occupational therapy	1.Explain the concept of outcomes and outcomes measures in occupational therapy (C2) 2. Discuss the types of outcomes in occupational therapy (C2) 3. Discuss the types of outcomes in occupational therapy (C2)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):						
Learning Strategies	**Contact Hours**		**Student Learning Time (SLT)**			
Lecture	39		117			
Seminar	--					
Small group discussion (SGD)	9		27			
Self-directed learning (SDL)	--		--			
Problem Based Learning (PBL)	--		--			
Case Based Learning (CBL)	--		--			
Clinic	--		--			
Practical	--		--			
Revision	4		12			
Assessment	--		--			
Total	**52**		**156**			
Assessment Methods:						
Formative:	**Summative:**					
Unit Test	Mid Semester/Sessional Exam (Theory)					
Quiz	End Semester Exam (Theory)					
Assignments/Presentations						
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x				
Sessional Examination 2		x	x			
Quiz / Viva				x		
Assignments/Presentations		x				
End Semester Exam	x	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					

Main Reference:	1. Dsouza SA, Galvaan R & Ramugondo E (Editors). Concepts in occupational therapy: understanding southern perspectives. Manipal University Press;2017 2. Schell BA, Gillen G, Scaffa M, Cohn ES. Willard and Spackman's occupational therapy. 12th ed. Philadelphia: Lippincott Williams and Wilkins; 2013
Additional References	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48. 2. Pendleton HM, Schultz-Krohn W. Pedretti's occupational therapy: Practice skills for physical dysfunction. 7th ed. Missouri: Mosby Inc., Elsevier; 2013. 3. World Health Organization. International Classification of Functioning, Disability and Health: ICF. Geneva: World Health Organization; 2001.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Basic Competencies for Occupational Therapists-I**
Course Code	**OCT1102**
Academic Year	First year
Semester	I
Number of Credits	3
Course Prerequisite	Nil
Course Synopsis	1. It introduces the basic competencies required for occupational therapy practice. 2. It describes occupations and their situated nature. 3. It explicates basic skills and attributes required for occupational therapy practice

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Describe occupations and their situated nature (C2)
CO2	Explain occupational practice (C2)
CO3	Apply learning and self-management strategies (C3, P3, A2)
CO4	Explain communication with stakeholders (C2, P3, A2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x				x			
CO2		x				x		
CO3		x					x	
CO4			x					

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: In this unit, occupations as a construct will be discussed. This will provide the students with a basic foundation for practicing in an occupation-centered manner.		
Occupations	1.Define occupations (C1) 2.Explain different definitions of occupations (C2)	16
Why do we study occupations?	1.Describe meaning and purpose of occupations (C2) 2.Explain how occupations are inter-dependent (C2)	
Relation between occupation and human health	1.Define human health (C1) 2.Outline the relationship between health and occupation (C2)	
Situated nature of human occupation	1.Explain relationship between person as occupational being and the environment (C2)	

Content	Competencies	Number of Hours
	2.Identify levels of environment (C1) 3.Explain context as a determinant of occupations (C2)	
Unit 2: In this unit, basic skills required to become an occupational therapist are discussed and include communication, and becoming a reflective practitioner		
Communication	1. Explain the concepts of communication and its importance for building therapeutic relationships in occupational therapy (C2) 2.Discuss the skills required for effective communication (C2, A2) 3. Describe the concept of the therapeutic use of self (C2, P3)	23
Time management	1.Explain the importance of time management and strategies for managing time effectively (C2) 2. Discuss the time management techniques and strategies (the POSEC method, the Eisenhower method, Pareto analysis, ABC analysis, the Pomodoro technique, COPE technique) (C3)	
Strategies for effective learning	1. Explain the strategies for managing reading (SQ3R strategy) (C2) 2.Discuss the art of reading actively (C2) 3 Discuss the process of writing notes and some commonly used methods for writing notes (straight prose summary) (C2) 4.Discuss the skeleton outline and spider chart for writing a note (C3) 5. Describe the concept of learning through listening (C3, A2)	
Report writing	1. Describe the art of writing a report and the types of reports (C3) 2.Distinguish between essays and reports (C2) 3. Use appropriate formats for writing reports and (C3) 4. Explain the tips for using language effectively while writing (C2,P3)	
Reflective learning	1.Describe the different means of reflective thinking and reflective writing (C2) 2. Discuss the appropriate reflective writing tool (journals, diaries) logs and reflective notes) (C2) 3. Discuss the appropriate reflective writing tool (logs and reflective notes) (C2,P3) 4.Outline the process of writing reflectively in the reflective note (C2)	
First aid, infection control, safety	1.Explain the basic concepts in first aid and infection control when required in the clinical area (C2)	

Content	Competencies	Number of Hours
	2.Discuss the Safety concerns while working in the clinic (C2) 3. Relate handling incidents and emergencies in the clinics (C2)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	39
Seminar	--	--
Small group discussion (SGD)	14	42
Self-directed learning (SDL)	6	18
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	--	--
Practical	--	--
Revision	6	18
Assessment	--	--
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory and/or Practical)
Quiz	End Semester Exam (Theory and/or Practical)
Viva	
Assignments/Presentations	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x		
Quiz / Viva				x
Assignments/Presentations	x	x	x	
Clinical/Practical Log Book/ Record Book/Reflective Writing			x	
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Schell BA, Gillen G, Scaffa M, Cohn ES. Willard and Spackman's occupational therapy. 12th ed. Philadelphia: Lippincott Williams and Wilkins; 2013 2. Dsouza SA, Galvaan R & Ramugondo E (Editors). Concepts in occupational therapy: understanding southern perspectives. Manipal University Press;2017

Additional References	1. Growth Cheat Sheet. [Internet]. Time management tips and strategies (Epic How-to Methods). 2016 [cited 2016 May 28]; Available from: http://growthcheatsheet.com/time-management-tips-and-strategies/ 2. University of New South Wales, Australia [Internet]. Reflective writing. 2014 Sep 22 [cited 2016 May 28]; Available from: https://student.unsw.edu.au/reflective-writing 3. Coughlan A. Learning to learn. Reflective learning: Keeping a reflective learning journal [Internet]. [Place unknown]. Dublin City University; 2008 [cited 2016 May 28]. Available from: https://www.dcu.ie/sites/default/files/students/Reflectivelearning.pdf

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork - I**
Course Code	**OCT1131**
Academic Year	First year
Semester	I
Number of Credits	6
Course Prerequisite	Nil
Course Synopsis	1. It provides orientation to the clinical areas and the role of occupational therapy. 2. It provides an opportunity for students to interact with clients, practice journaling of daily observations in clinical areas and report writing.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	List various medical and occupational therapy terminology (C1)
CO2	Conduct self in professional manner in clinical settings (A2)
CO3	Demonstrate effective information gathering skills (C2, P2)
CO4	Demonstrate effective communication skills with stakeholders (A2, P2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2			x	x				
CO3		x			x			
CO4			x	x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Orientation to occupational therapy practice settings in the areas of Neuro-rehabilitation, Musculoskeletal rehabilitation, Pediatric Habilitation and Mental Health and Psycho-social rehabilitation		
	1. Identify different medical terminology in various setting(C2) 2. Interview the client and caregivers (P1) 3. Outline the information collected from the medical records (P2) 4. Identify client's occupational dysfunction based on an initial component of the initial component of assessment (OTPF level I checklist) in various settings (C2) (P2) 5. Apply the universal and safety precautions in various settings (P2) 6. Comprehend and follow professional attributes in	Clinical Discussion (48 hours) Pre-clinical practice (48 hours) Clinical practice (138 hours)

Content	Competencies	Number of Hours
	various settings (initiation, observation, time management and communication skills) (C2) (A2)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	--	--
Seminar	--	--
Small group discussion (SGD)	96	192
Self-directed learning (SDL)	--	--
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	138	276
Practical	--	--
Revision	--	--
Assessment	--	--
Total	234	468

Assessment Methods:	
Formative:	**Summative:**
Viva	End Semester Exam (EOP)
Assignments/Presentations	Viva
Clinical/Practical Log Book/ Record Book	Record Book

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**		
Viva				x		
Assignments/Presentations		x				
Clinical/Practical Log Book/ Record Book	x	x	x	x		
End Semester Exam	x	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48. 2. Clinical Format

SEMESTER - II

COURSE CODE	:	COURSE TITLE
ANA1201	:	Anatomy- II
ANA1211	:	Anatomy Practical- II
PHY1201	:	Physiology- II
BIC1201	:	Biochemistry
CSK1001	:	Communication skills
EIC1001	:	Environmental Sciences and Indian Constitution
OCT1201	:	Assessments in Occupational Therapy- I
OCT1211		Assessments in Occupational Therapy- I (Practical)
OCT1202	:	Basic Competencies for Occupational Therapists- II

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Anatomy- II**
Course Code	**ANA1201**
Academic Year	First Year
Semester	II
Number of Credits	2
Course Prerequisite	Basic knowledge of general anatomy
Course Synopsis	Human anatomy is the study of the human body and relations of various structures of the body by dissection.
Course Outcomes (COs): At the end of the course student shall be able to	
CO1	Explain the musculoskeletal system related to the upper and lower extremities. (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours (Theory)**
Unit 1:		
Pectoral region And Axilla	• Describe the pectoral muscles –pectoralis major, pectoralis minor, serratus anterior with attachments, nerve supply and actions (C1, C2) • Explain anatomical basis of winging of scapula (C2) • Describe the clavipectoral fascia (C1) • Describe the boundaries and contents of axilla (C1, C2) • Describe the axillary artery- extent, course and branches (C1, C2) • Describe the brachial plexus formation and branches (C1, C2) • Describe the Erb's point mentioning the clinical aspects (C2) • Describe the Klumpke's paralysis (C2)	3
Muscles of back and shoulder region	• Describe the muscles of back and shoulder region- trapezius, deltoid, latissimus dorsi, rhomboidus major and minor, supraspinatus, infraspinatus, teres major and minor (detailed) C1, C2) • Describe the deltoid with applied anatomy (C1, C2) • Describe the supraspinatus with applied anatomy (C1, C2) • Describe the subacromial bursa with applied anatomy (C1, C2) • Describe the rotator cuff with its role in limiting	2

Content	Competencies	Number of Hours (Theory)
	shoulder dislocation (C1, C2) • Describe each of the intermuscular spaces with boundaries and contents (C1, C2)	
Arm	• Describe the muscles of front of arm- biceps brachii, brachialis, coracobrachialis with attachments, nerve supply and actions (C1, C2) • Describe the boundaries and contents of cubital fossa (C1, C2) • Describe the brachial artery with mention of Volkmann's ischemic contracture and supracondylar fracture (C1, C2) • Describe the axillary nerve with applied anatomy (C1, C2) • Describe musculocutaneous nerve with applied anatomy (C1, C2) • Describe the triceps brachii with the nerve supply & actions (C1, C2) • Describe radial nerve with applied anatomy (C1, C2)	2
Forearm	• Name the superficial and deep muscles of front of forearm with nerve supply and actions (C1, C2) • Describe pronator teres and brachioradialis in detail (C1, C2) • Names the muscles of back of forearm with nerve supply and actions (C1, C2) • Describe the supinator in detail (C1, C2) • Explains tennis elbow (C1, C2) • Describe the extensor retinaculum with osseo-fascial compartments in detail (C1) • Describe the anatomical snuff box with boundaries and contents (C1, C2)	2
Palm	• Describe the flexor retinaculum with applied anatomy (C1, C2) • briefly Describe the palm -name thenar and hypothenar muscles with nerve supply and action (C1) • Describe adductor pollicis (C1) • Describe the lumbricals and interossei (detailed) with nerve supply and actions (C1, C2)	1
Nerves and vessels of upper limb	• Describe the ulnar nerve with applied anatomy (C1, C2) • Describe the median nerve in detail (C1, C2) • Explains carpal tunnel syndrome detailed (C1, C2) • Describe each radial and ulnar artery- extent, course and branches (C1, C2)	3
Joints of upper limb	• Describe the shoulder joint under type, articular surfaces, ligaments, relations, movements and muscles responsible with a note on applied anatomy (C1, C2)Describe the elbow joint (detailed) (C1, C2)	3

Content	Competencies	Number of Hours (Theory)
	• Describe the radioulnar joints (detailed) (C1) • Describe the wrist joint (detailed) (C1, C2) • Describe the first carpometacarpal joint (detailed) (C1)	
Venous and lymphatic drainage of upper limb	• Describe the median cubital vein with applied anatomy (C1, C2) • Describe the cephalic vein with applied anatomy (C1, C2) • Describe the basilic vein with applied anatomy (C1, C2) • Describe the lymphatic drainage of upper limb (C1, C2)	1
Sternocleidomastoid and Muscles of facial expression	• Describe the sternocleidomastoid with attachments, relations, nerve supply, actions and applied anatomy (C1, C2) • Enumerates the muscles of facial expression (C1) • Describe the orbicularis oculi, orbicularis oris and buccinator with nerve supply and actions (C1, C2)	1
Vertebrae & Vertebral column	• Describe the curvatures of the vertebral column mentioning lordosis, kyphosis, scoliosis C1, (C2) • Explains the structure, functions, regional characteristics of vertebrae (C1, C2) • Describe the parts and function of intervertebral disc with applied anatomy (C1, C2)	1
Unit 2:		
Thigh	• Describe the fascia lata, iliotibial tract, saphenous opening (C1, C2) • Describe the boundaries and content of femoral triangle (C1, C2), • Describe the femoral sheath, femoral canal with applied anatomy (C1, C2) • Describe great saphenous vein (detailed) with applied anatomy (C1, C2) • Describe the femoral artery- extent, course and branches (C1, C2) • Describe the femoral nerve with applied anatomy (C1, C2) • Describe the inguinal lymph nodes (C1) • Describe the muscles of front of thigh with attachment, nerve supply and actions (C1, C2) • Describe the adductor canal -boundaries and content with applied anatomy (C1, C2) • Describe the adductor compartment muscles with attachment, nerve supply and actions (C1, C2) • Describe the adductor magnus with attachment, nerve supply and actions (C1, C2) • Describe the obturator nerve with applied anatomy (C1, C2)	3

Content	Competencies	Number of Hours (Theory)
Gluteal region	• Describe the sensory innervation of the quadrants of gluteal region with a note on intramuscular injections (C1, C2) • Describe gluteus maximus with attachment, nerve supply and actions (C1, C2) • Describe the gluteus medius and minimus with actions and related applied anatomy (C1, C2) • Enumerate the structures under cover of gluteus maximus (C1) • Describe the relations of pyriformis with brief mention of attachment, nerve supply and actions (C1,C2)	1
Back of thigh and Popliteal fossa	• Describe the hamstring muscles with attachments, nerve supply and actions (C1, C2) • Describe the popliteal fossa with boundaries and contents (C1, C2) • Describe the popliteus with emphasis on actions (C1, C2) • Describe the popliteal artery -extent, course and branches with a note on applied anatomy (C1, C2)	1
Leg	• Enumerates the anterior compartment muscles with attachment, nerve supply and actions with applied anatomy (C1, C2) • Describe the tibialis anterior in detail with emphasis on actions (C1, C2) • Describe the anterior tibial artery –extent, course and branches (C1, C2) • Enumerates the lateral compartment muscles with attachment, nerve supply and actions with applied anatomy (C1, C2) • Describe the peroneal artery (C1, C2) • Enumerates the posterior compartment muscles with attachment, nerve supply and actions (C1, C2) • Describe the soleus in detail with a note on applied anatomy (C1, C2) • Describe the gastrocnemius in detail with a note on applied anatomy (C1, C2) • Describe the tibialis posterior in detail with emphasis on actions (C1, C2) • Describe the posterior tibial artery (C1, C2)	2
Foot	• Describe the sensory innervation of the dorsum of foot (C1, C2) • Enumerates the muscles with nerve supply (C1) • Describe the dorsalis pedis artery with reference to peripheral pulse (C1, C2) • Enumerates the muscles of first and second layer of sole (C1) • Names the sensory innervation of the sole of foot	2

Content	Competencies	Number of Hours (Theory)
	(C1) • Describe the arches of foot in detail with applied anatomy (C1, C2)	
Joints of lower limb	• Describe the hip joint under type, articular surfaces, ligaments, relations, movements and muscles responsible with a note on applied anatomy (C1, C2) • Describe the knee joint under – type, articular surfaces, ligaments, relations, movements and muscles responsible with a note on applied anatomy (C1, C2) • Describe the tibiofibular joint (detailed) (C1, C2) • Describe the ankle joint (detailed) (C1, C2) • Describe the subtalar joint (detailed) (C1)	3
Nerves of lower limb	• Describe the sciatic nerve under origin, root value, course, branches with applied anatomy (C1, C2) • Describe the tibial nerve under origin, root value, course, branches with applied anatomy (C1, C2) • Describe the common peroneal nerve under origin, root value, course, branches with applied anatomy (C1, C2) • Describe the deep peroneal nerve under course, branches and applied anatomy (C1, C2) • Describe the superficial peroneal nerve under course, branches and applied anatomy (C1, C2)	2
Venous and lymphatic drainage of lower limb	• Describe the great saphenous vein (detailed) with applied anatomy (C1, C2) • Describe the small saphenous vein (C1) • Describe the lymphatic drainage of lower limb with a mention of elephantiasis (C1, C2)	1

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	34	102
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical		
Revision		
Assessment		
Total	**34**	**102**

Learning Assessment Methods:							
Formative:	**Summative:**						
Unit Test	Sessional Exam I and Sessional Exam II						
Quiz	End Semester Exam						
Viva							
Assignments/Presentations							
Mapping of Assessment with COs:							
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1		x					
Sessional Examination 2		x					
Quiz / Viva							
Assignments/Presentations							
End Semester Exam		x					
Feedback Process:	Mid-Semester Feedback						
	End-Semester Feedback						
Main Reference:	1. Chaurasia BD.Human Anatomy. 8th edition New Delhi: CBS Publishers (Vol 1,2); 2019 2. Singh V. General anatomy, 3rd edition. India: Elsevier; 2018 3. Chaurasia BD. Handbook of general human anatomy. New Delhi: CBS Publishers						
Additional References	1. Singh V. Text book of Anatomy, 3rd edition. India: Elsevier; 2018 2. Madhyastha S. Manipal Manual of Anatomy. New Delhi: CBS Publishers						

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Anatomy Practical - II**
Course Code	**ANA1211**
Academic Year	First year
Semester	II
Number of Credits	2
Course Prerequisite	Basic knowledge of anatomy related to musculoskeletal system
Course Synopsis	Human anatomy is the study of gross features and relations of various structures of the body by dissection.
Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Demonstrate and explain the attachment of muscles, bones and related structures of the upper and lower extremities (C2; P1)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		**X**						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Pectoral region and axilla	1. Identifies pectoralis major, -minor, and serratus anterior and states nerve supply of each (C2, P1) 2. Identifies the axillary vessels, cords and major branches of brachial plexus (C2, P1) 3. Identifies the trapezius, deltoid, latissimus dorsi, supraspinatus, infraspinatus, teres major and minor (C2, P1) 4. Identifies rhomboidus major and minor (C1, P1) 5. Identifies the intermuscular spaces and their contents (C2, P1)	3
Front and back of arm, cubital fossa,	1. Identifies the muscles of front and back of arm (C2, P1) 2. Identifies the boundaries and contents of cubital fossa (C2, P1)	2
Front and back of forearm and dorsum of hand	1. Identifies the muscles of front of forearm (C2, P1) 2. Identifies the muscles of back of forearm (C1, P1) 3. Identifies the extensor retinaculum (C2, P1) 4. Identifies the osseo-fascial compartments (C1, P1) 5. Identifies the anatomical snuff box with boundaries and contents (C2, P1)	2

Content	Competencies	Number of Hours
Bones of upper limb	1. Demonstrates the major features and attachments of clavicle, scapula, Humerus (C2, P1) Demonstrates the major features and attachments of radius and ulna (C2, P1) 2. Identifies the carpals (C1, P1) 3. Identifies the carpals, metacarpals, phalanges and joints -MCP, DIP, PIP in the articulated hand (C1,P1)	2
Palm of the hand	1. Identifies the thenar and hypothenar muscles (C1, P1) 2. Identifies the carpals (C1, P1) 3. Identifies the carpals, metacarpals, phalanges and joints -MCP, DIP, PIP in the articulated hand (C1, P1)	2
Blood vessels of upper limb	1. Identifies the axillary artery, brachial artery, radial artery, ulnar artery and superficial palmar arch (C2, P1) 2. Identifies the cephalic vein, basilic vein, axillary vein and median cubital vein (C2, P1)	2
Sternocleidomastoid Muscles of facial expression, Vertebrae	1. Identifies the sternocleidomastoid (C2, P1) 2. Identifies the orbicularis oculi, orbicularis oris (C2, P1) 3. Identifies cervical, thoracic, lumbar vertebrae and sacrum (C1, P1)	2
Unit 2:		
Hip bone Femur	1. Demonstrates the major features and attachments of hip bone and femur (C2, P1)	1
Front of thigh, femoral triangle, Adductor canal	1. Identifies the femoral triangle with its boundaries and contents (C2, P1) 2. Identifies the femoral artery, femoral vein, great saphenous vein, femoral nerve (C2, P1) 3. Identifies the sartorius, rectus femoris and vasti muscles (C2, P1) 4. Identifies the adductor canal with its boundaries and contents (C1, P1)	2
Medial side of thigh, Gluteal region,	1. Identifies the gracilis, adductor longus (C2, P1) and notices the other adductor muscles (C1, P1) 2. Identifies the gluteus maximus, gluteus medius, pyriformis (C2, P1) 3. Identifies the sciatic nerve, tibial nerve, common peroneal nerve (C2, P1)	2
Back of thigh, Popliteal fossa, Knee joint	1. Identifies the biceps femoris, adductor magnus, semitendinous, semimembranous, popliteus (C2, P1) 2. Identifies the popliteal vessels (C2, P1) 3. Identifies the medial and lateral meniscus, anterior cruciate ligament (C1, P1, P2)	3
Tibia, Patella, Fibula	1. Demonstrates the major features and	1

Content	Competencies	Number of Hours
	attachments of tibia and Fibula (C2, P1) 2. Identifies the patella and names some attachments.	
Leg	1. Identifies the flexor retinaculum, tibialis anterior, extensor hallucis longus, extensor digitorum longus and peroneus tertius along with their nerve supply (C2, P1) 2. Identifies the peroneus longus and peroneus brevis (C2, P1) and names their nerve supply (C1, C2, P1) 3. Identifies the gastrocnemius, soleus, Achilles tendon, tibialis posterior	3
Tarsal bones & articulated foot	1. Identifies the tarsals –calcaneus, talus, navicular, cuboid (C1, P1,) 2. Identifies the bones in a articulated foot	1
Sole & dorsum of foot	1. Identifies the extensor retinaculum and notices underlying structures (C2, P1) 2. Identifies the plantar aponeurosis, muscles of first and second layers of sole (C2, P1)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture		
Seminar		
Small group demonstration (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical **(02 hours each)**	30	90
Revision	04	12
Assessment	03	09
Total	**37**	**111**

Assessment Methods:	
Formative:	**Summative:**
Table test	Mid Semester (Practical)
Spotters test	End Semester Exam (Practical)

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid semester Sessional Examination 1	**x**		-	-	-	-
Table test	**x**					
Spotters test	**x**					
End Semester Exam	**x**					

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Chaurasia BD.Human Anatomy. 8th edition New Delhi: CBS Publishers (Vol 1,2); 2019 2. Singh V. General anatomy, 3rd edition. India: Elsevier; 2018 3. Chaurasia BD. Handbook of general human anatomy. New Delhi: CBS Publishers
Additional References	1. Singh V. Text book of Anatomy, 3rd edition. India: Elsevier; 2018 2. Madhyastha S. Manipal Manual of Anatomy. New Delhi: CBS Publishers

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Physiology - II**
Course Code	**PHY1201**
Academic Year	First Year
Semester	II
Number of Credits	2
Course Prerequisite	Basic knowledge of general physiology
Course Synopsis	This module provides a comprehensive knowledge about normal functions of the organ systems of the body to understand the physiological basis of health and disease required for health professionals.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Know the basic facts and concepts of Physiology (C1).
CO2	To have a knowledge of the normal functions of organ systems of the body to facilitate an understanding of physiological basis of health (C2).
CO3	To integrate the functions of various organ systems & to understand their functions as a body unit (C2).
CO4	Explain the physiological basis of disease processes (C2).

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes:

Topics	**Competencies**	**Number of Hours**
Unit 1: Central nervous System		
General organization of nervous system	• Outline the organization of nervous system (C1) • Outline the organization of autonomic nervous system(ANS) C1) • Enumerate the functions of ANS (C1) • Mention the functional areas of cerebral cortex and their functions (C1)	1
Receptors	• Classify sensory receptors according to type and location of stimulus, giving examples for each (C2) • Explain the property of 'specificity' and 'adequate stimulus' (C2) • Explain the property of 'adaptation' of sensory receptors (C2)	1

Topics	Competencies	Number of Hours
Synapse	• Define 'synapse' (C1) • Describe the structure of a synapse (C2) • Explain the events in synaptic transmission (C2)	1
Reflexes	• Define reflex (C1) • Enumerate the components of a reflex arc with the help of a diagram (C1) • Describe the stretch reflex with the help of a diagram(C2) • Describe withdrawal reflex with the help of a diagram(C2) • Explain the importance of withdrawal reflex (C2)	2
Ascending pathways	• Outline the general organization of sensory pathways(C1) • Describe the dorsal column, lateral spinothalamic and anterior spinothalamic tracts with the help of labelled diagrams(C2) • Mention the different sensations that are carried by the above pathways (C1)	2
Descending pathways	• Describe the pyramidal/corticospinal tract with the help of a labelled diagram (C2) • Tabulate the differences between 'upper motor neuron lesion' and 'lower motor neuron lesion (C2)	1
Cerebellum	• Name the functional divisions of cerebellum (C1) • Enumerate the functions of each lobe of cerebellum(C1) • List the clinical features of cerebellar lesion (C1) • List the clinical features of cerebellar lesion (C2)	1
Basal ganglia	• Mention the components of basal ganglia (C1) • Enumerate the functions of basal ganglia (C1) • Explain the cause and clinical features Parkinson's disease (C2) • Explain the basis of treatment of Parkinson's disease (C2)	1
Thalamus and Hypothalamus	• Explain the functions of thalamus (C2) • List the different nuclei of hypothalamus (C1) • Explain the functions of hypothalamus (C2)	2
Cerebrospinal fluid	• Describe the formation, circulation, absorption and functions of CSF (C2) • Mention the method of collection of a sample of CSF and its indications (C1) • Explain the functions of higher centers of brain(C2)	1
Unit 2: Gastrointestinal system		
Salivary secretion & Deglutition	• Mention the composition of saliva (C1) • Explain the functions of saliva (C2) • Describe the regulation of salivary secretion	1

Topics	Competencies	Number of Hours
	(C2) • Describe the effects of Xerostomia (C2) • Define deglutition (C1) • Explain the stages of deglutition (C2) • Describe dysphagia (C2) • Describe Achalasia cardia (C2)	
Stomach	• Describe the functions of stomach (C2) • Mention the composition of gastric juice (C1) • Describe functions of gastric juice (C2) • Describe the mechanism of secretion of hydrochloric acid (C2) • Describe the regulation of gastric juice secretion(cephalic, gastric and intestinal phases) (C2)	1
Exocrine portion of Pancreas; Liver and biliary system	• Outline the composition of pancreatic juice (C1) • Describe the functions of pancreatic juice (C2) • Describe the neural and hormonal regulation of pancreatic juice (C2) • Outline the composition of hepatic bile(C1) • Describe the functions of bile(C2) • Enumerate the functions of gall bladder(C1)	1
Small intestine and large intestine	• Composition and functions of small intestinal secretions (C2) • Different types of Intestinal movements and their significance (C2) • Explain different types of small intestinal movements and their significance(C2) • List the functions of large intestine(C1)	1
Unit 3: Renal system		
Introduction & Glomerular filtration	• List the functions of kidneys (C1) • Draw a labelled diagram of a nephron (C1) • Mention the normal value of renal blood flow (C1) • Define glomerular filtration rate(GFR) (C1) • Mention the normal value of GFR (C1) • Explain the factors influencing GFR (C2) • List the substances used for the determination of GFR (C1)	1
Reabsorption and secretion in renal tubules	• Describe tubular reabsorption of sodium, glucose and water (C2) • Define tubular load, renal threshold and tubular/transport maximum (C1) • Mention the normal values for tubular load, renal threshold and tubular/transport maximum (C1)	1
Mechanism of concentration/dilution of urine	• Describe the role of counter current multiplier and counter current exchanger in the formation of urine (C2)	1

Topics	Competencies	Number of Hours
Physiology of micturition	• Describe the nerve supply to urinary bladder (C2) • Describe the micturition reflex (C2) • List the functions of skin	1
Unit 4: General principles of endocrinology		
Introduction and Pituitary gland	• Name the major endocrine glands and their secretions(C1) • Mention the chemical nature of hormones with examples (C2) • List the anterior pituitary hormones (C1) • Describe the actions of growth hormone (C2) • Describe the regulation of secretion of growth hormone(C2) • Describe the cause and clinical features of gigantism (C2) • Describe the cause and clinical features of acromegaly (C2) • Describe the cause and clinical features of dwarfism (C2) • List the hormones of posterior pituitary (C1) • Describe the actions of posterior pituitary hormones (C2) • Describe diabetes insipidus (C2)	1
Thyroid gland	• List the hormones of thyroid gland (C1) • Describe the actions of thyroid hormones(C2) • Describe the regulation of secretion of thyroid hormones (C2) • Describe the cause and clinical features of hyperthyroidism (C2) • Describe the cause and clinical features of cretinism (C2) • Describe the cause and clinical features of myxedema(C2) • Explain the actions of glucocorticoids (C2)	2
Adrenal cortex & Adrenal medulla	• Describe the regulation of secretion of glucocorticoids (C2) • Explain the cause and clinical features of Cushing's syndrome (C2) • Describe the actions of mineralocorticoids (C2) • Describe the cause and clinical features of Addison's disease (C2) • List the hormones of adrenal medulla (C1) • Describe the actions of adrenal medullary hormones (C2)	1
Parathyroid gland	• Describe the actions of PTH (C2) • Describe the regulation of secretion of PTH (C2) • Describe the effects of hyperparathyroidism (C2)	1
Endocrine Pancreas	• Describe the actions of insulin (C2)	1

Topics	Competencies	Number of Hours
	• Describe the regulation of secretion of insulin (C2) • Describe the cause and clinical features of diabetes mellitus (C2) • List the actions of glucagon (C1) • Describe the regulation of secretion of glucagon (C2)	
Unit 5: Reproductive system		
Male Reproductive system	• Describe the organization of male reproductive system(C2) • Describe the structure and functions of testes (C2) • Define spermatogenesis (C1) • Describe the stages of spermatogenesis (C2) • Mention the actions of testosterone (C1) • Describe the regulation of secretion of testosterone (C2)	1
Female Reproductive system	• Describe the structure of female reproductive system(C2) • Explain the actions of Estrogen and Progesterone (C2) • Describe the ovarian changes during menstrual cycle(C2) • Describe the uterine endometrial changes during menstrual cycle (C2) • Explain the hormonal control of ovarian functions (C2) • Describe the indicators of ovulation (C2)	2
Pregnancy and Lactation; Contraceptive methods	• Enumerate the functions of placenta (C1) • Describe milk ejection reflex (C2) • Mention various contraceptive methods in males (C1) • Mention various contraceptive methods in females (C1) • Explain the mechanism of action of various contraceptive methods (C2)	1

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	31	93
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Case Based Learning (CBL)		
Clinic		
Practical		

Revision						
Assessment						
Total	**31**				**93**	
Assessment Methods:						
Formative:	**Summative:**					
NIL	Sessional Examination I and Sessional Examination II (Theory)					
	End Semester Exam (Theory)					
	Viva					
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	**x**	**x**				
Sessional Examination 2	**x**	**x**	**x**	**x**		
End Semester Exam	**x**	**x**	**x**	**x**		
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. Venkatesh D & Sudhakar HH. Basics of Medical Physiology, 4th edition. New Delhi: Wolters Kluwer; 2018 2. Chandrashekar CN. Manipal Manual of Medical Physiology. New Delhi: CBS Publishers; 2018					

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Biochemistry**
Course Code	**BIC1201**
Academic Year	First year
Semester	II
Number of Credits	3
Course Prerequisite	Basic knowledge of Biology and Chemistry
Course Synopsis	Biochemistry broadly deals with the chemistry of life and living processes. It helps in understanding the building blocks – proteins, carbohydrates, fats, nucleic acids and is necessary for allied health professions students to understand various biochemical mechanisms so as to correlate with or identify the pathological processes. Knowledge of biomolecules is necessary to understand the various laboratory investigations and their relevance in clinical practice

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the classification, composition and functions of macromolecules (C2)
CO2	Describe the process of digestion, absorption and metabolism of carbohydrates, lipids and proteins (C2)
CO3	Summarize the concepts of nutrition, balanced diet and role of macro and micronutrients in the maintenance of health (C2)
CO4	Summarize the features and investigations in diabetes mellitus and acid-base disorders (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes:

Unit	**Content**	**Competencies**	**Number of Hours**
Unit 1: ENZYMES			
At the end of this chapter, a student should be able to 1. Define the term ‘enzyme’ (C1) 2. Classify enzymes based on reaction specificity (IUBMB classification) (C2) 3. Give one example (names of enzymes & reaction catalyzed) for each			2

Unit	Content	Competencies	Number of Hours
		class of enzymes (C1) 4. Define the term 'isoenzymes' (C1) 5. Explain isoenzymes with examples (creatine kinase, lactate dehydrogenase) (C2) 6. Define the term 'proenzyme or zymogen' with pepsinogen and trypsinogen as examples (C1) 7. Describe the utility of serum enzymes as diagnostic markers (C2) 8. Mention the diagnostic utility of following enzymes (C1) • CK • ALP • AST • ALT • LDH	
Unit 2: CARBOHYDRATE CHEMISTRY			
		At the end of this chapter, a student should be able to 1. Define the term 'carbohydrates' (C1) 2. Classify carbohydrates with examples for each class (C2) 3. Classify monosaccharides with examples based on (C2) • Number of carbon atoms • Functional groups 4. Mention the source and composition of following disaccharides (C1) • Sucrose • Lactose • Maltose 5. Classify polysaccharides based on composition with examples (C2) 6. Explain the structure of starch and glycogen with schematic representation (C2 7. List the differences between starch and glycogen (C1) 8. Mention the occurrence and functions of heparin and chondroitin sulphate (C1)	2
Unit 3: CARBOHYDRATE DIGESTION AND ABSORPTION			
		At the end of this chapter, a student should be able to 1. Describe the complete digestion of dietary polysaccharides (starch and glycogen) (C2) 2. Describe the reactions catalyzed by the following brush border enzymes (C2) • Maltase • Sucrase-isomaltase • Lactase 3. Illustrate the mechanisms of absorption of monosaccharides in the small intestine (C2) 4. Explain the significance of including sodium chloride along with glucose in the oral rehydration solution (C2)	2
Unit 4: CARBOHYDRATE METABOLISM			
		A. Glycolysis At the end of this chapter, a student should be able to 1. Define aerobic and anaerobic glycolysis (C1) 2. Mention the site and subcellular site of glycolysis (C1)	2

Unit	Content	Competencies	Number of Hours
3. Describe the steps of glycolysis with all the enzymes and coenzymes at each step (C2) 4. Mention the regulatory enzymes and list the names of hormones that regulate it in the well-fed state and starvation (C1) 5. Calculate the energetics of aerobic and anaerobic glycolysis (C2)			
B. Gluconeogenesis At the end of this chapter, a student should be able to 1. Define gluconeogenesis (C1) 2. Mention the sites & subcellular sites of gluconeogenesis (C1) 3. List the precursors for gluconeogenesis (C1) 4. List the key enzymes of gluconeogenesis (C1) 5. Describe the synthesis of glucose from pyruvate and lactate (C2) 6. Mention the regulatory enzymes and list the names of hormones that regulate it in the well-fed state and starvation (C1) **7.** Explain the significance of gluconeogenesis (C2)			2
C. Citric acid cycle At the end of this chapter, a student should be able to 1. Recall the reaction catalyzed by pyruvate dehydrogenase complex and mention its coenzymes (C1) 2. Mention the site and subcellular site of citric acid cycle (C1) 3. Describe the reactions of citric acid cycle with all enzymes and coenzymes (C2) 4. Mention the regulatory enzymes of citric acid cycle (C1) **5.** Calculate the energetics of citric acid cycle (C2)			2
D. Glycogen metabolism At the end of this chapter, a student should be able to 1. Mention the function of glycogen in liver and muscle (C1) 2. Define glycogenesis & glycogenolysis (C1) 3. Mention the site and subcellular site of glycogen metabolism (C1) 4. Mention the fate of end products of glycogenolysis in liver (role of glucose 6-phosphatase) and muscle (C1) 5. Mention the regulatory enzymes and the hormones involved in regulation in well-fed state and starvation (C1) **6.** List the glycogen storage disorders mentioning their names, defects and tissues affected (Type I, V & VI) (C1)			1
Unit 5: ELECTRON TRANSPORT CHAIN AND OXIDATIVE PHOSPHORYLATION			
At the end of this chapter, a student should be able to 1. Define the electron transport chain (ETC) (C1) 2. Name the subcellular site of ETC (C1) 3. Describe the complexes of ETC (with their components and order of arrangement) and mention the mobile electron carriers (C2) 4. Name the inhibitors for each of the complexes of ETC (C1) 5. Define oxidative phosphorylation (C1)			1
Unit 6: LIPID CHEMISTRY			
At the end of this chapter, a student should be able to 1. Define lipids (C1) 2. Explain the functions of lipids in the body (C2) 3. Classify lipids with examples for all the subclasses (C2)			1

Unit	Content	Competencies	Number of Hours
4. Classify fatty acids with examples-saturated, unsaturated (based on number of double bonds), essential fatty acids (C2)			
Unit 7: LIPID DIGESTION, ABSORPTION AND ASSOCIATED DISORDERS			
At the end of this chapter, a student should be able to 1. Explain the process of emulsification of lipids (C2) 2. Describe the digestion of lipids in the stomach and intestine (C2) 3. Illustrate the process of absorption of lipids (C2) 4. Define steatorrhea and list its causes (C1)			2
Unit 8: LIPID METABOLISM			
A. De novo synthesis of fatty acids At the end of this chapter, students should be able to 1. Mention the site and subcellular site of de novo synthesis of fatty acids (C1) 2. List the sources of acetyl CoA for de novo synthesis of fatty acids (C1) 3. Explain the reaction catalyzed by acetyl CoA carboxylase (C2) 4. Mention the regulatory enzyme and the hormones involved in regulation in well-fed state and starvation (C1) 1.			1
B. Synthesis of triacylglycerol (TAG) At the end of this chapter, students should be able to 1. Show the schematic structure of triacylglycerol (C1) 2. Mention the site and subcellular site of TAG synthesis (C1) 3. Describe the reactions of TAG synthesis (C2) 4. Mention the fate of TAG in liver and adipose tissue (C1)			1
C. Lipolysis At the end of this chapter, students should be able to 1. Mention the site and subcellular site of lipolysis (C1) 2. Describe the reactions of lipolysis (C2) 3. Mention the regulatory enzymes and the hormones involved in regulation in well-fed state and starvation (C1)			2
D. Beta oxidation of fatty acids At the end of this chapter, students should be able to 1. Define beta-oxidation (C1) 2. List the site and subcellular site of beta-oxidation (C1) 3. Describe the activation of palmitic acid (C2) 4. Explain the transport of activated palmitic acid into mitochondria (carnitine shuttle) (C2) 5. Describe the reactions of beta oxidation (C2) 6. Calculate the energetics of beta oxidation of palmitic acid (C2)			1
E. Lipoproteins At the end of this chapter, student should be able to 2. Classify lipoproteins based on their electrophoretic mobility and ultracentrifugation properties (C2) **3.** Mention the site of synthesis and the functions of Chylomicrons, VLDL, LDL and HDL (C1)			1

Unit	Content	Competencies	Number of Hours
Unit 9: AMINO ACID & PROTEIN CHEMISTRY			
At the end of this chapter, student should be able to 1. Recognize the general structure of D and L amino acids (C1) 2. Classify amino acids based on the following with examples (C2) • Presence in proteins (standard and non-standard amino acids) • Metabolic fate (glucogenic and ketogenic amino acids) • Nutritional requirement (essential and non-essential amino acids) 3. Classify proteins based on composition, functions and shape with examples (C2) 4. Describe the structure of mature collagen with diagram (C2) 5. Explain with illustrations the biosynthesis of mature collagen emphasizing the importance of prolyl hydroxylase, lysyl hydroxylase and lysyl oxidase (C2)			3
Unit 10: PROTEIN DIGESTION AND ABSORPTION			
At the end of the chapter, a student should be able to 1. Outline the activation of zymogens in the GIT (C1) 2. List the endo and exopeptidases in the digestive juices (C1)			1
Unit 11: AMINO ACID METABOLISM			
At the end of the chapter, a student should be able to 1. Explain transamination of amino acids with suitable examples (C2) 2. Describe the generation of ammonia by oxidative deamination using L-glutamate dehydrogenase. (C2) 3. Study urea cycle as follows a. Name its site and subcellular site (C1) b. Describe its reactions (C2) c. Mention its significance (C1) 4. Recall the physiologically important products derived from the following amino acids (C1) a. Glycine b. Tyrosine c. Methionine d. Tryptophan			2
Unit 12: GENERAL CONCEPTS OF NUTRITION			
At the end of the chapter, a student should be able to 1. Define the term balanced diet (C1) 2. Define caloric value of food and list the caloric values of carbohydrates, proteins and fats (C1) 3. State the total daily caloric requirements of an adult male and female (for sedentary, moderate and heavy workers) and for pregnant and lactating women (C1) 4. Define recommended dietary allowance (RDA) (C1) 5. Study basal metabolic rate as follows a. Define (C1) b. List the normal values for men and women (C1) c. Explain the factors affecting BMR (C2) 6. Define thermic effect (SDA) of food and recall the values for			2

Unit	Content	Competencies	Number of Hours
	macronutrients (C1)		
Unit 13: CARBOHYDRATES, PROTEINS AND FATS IN NUTRITION			
	A. Carbohydrates At the end of the chapter, a student should be able to 1. Mention the RDA (C1) 2. Study dietary fibers as follows a. Define (C1) b. Mention its RDA (C1) c. List the examples with their sources (C1) d. Explain its beneficial effects (C2) **B. Proteins** At the end of the chapter, a student should be able to 1. Mention the RDA (C1) 2. Define essential amino acids with examples (C1) 3. Study biological value as follows a. Define (C1) b. Name the protein used as standard for determining it (C1) c. List the protein sources with high and low biologic values (egg albumin, milk, fish, meat, rice, wheat and soy protein) (C1) 4. Define the term nitrogen balance (C1) 5. Explain positive and negative nitrogen balance with conditions during which they occur (C2) 6. Define the term limiting amino acids giving suitable examples (C1) 7. Explain mutual supplementation of proteins with examples (C2) **C. FATS** At the end of the chapter, a student should be able to 1. Mention the RDA (C1) 2. List the functions of cholesterol in the body (C1) 3. Study essential fatty acids as follows a. Define (C1) b. Mention its RDA (C1) c. Explain their functions and deficiency manifestations (C2) 4. Explain saturated and unsaturated (mono and poly) fatty acids with suitable examples, mentioning its sources and functions (C2)		2
Unit 14: MINERALS			
	At the end of this chapter, a student should be able to 1. Define the terms macro and micro minerals with examples. (C1) 2. Mention the sources and RDA for iron (C1) 3. Explain the functions, disorders of deficiency & excess for iron (C2) 4. Mention the sources, RDA and functions for calcium and phosphorus (C1) 5. Mention the normal serum levels of calcium and phosphorus and the hormones which regulate it **(**C1**)**		2
Unit 15: VITAMINS			
	At the end of this chapter, a student should be able to		3

Unit	Content	Competencies	Number of Hours
1. Define the term vitamins (C1) 2. List the classes of vitamins based on solubility (C1) 3. Study the water soluble vitamins mentioned below • Thiamine • Riboflavin • Niacin • Pantothenic acid • Pyridoxine • Biotin • Cobalamin • Folic acid • Ascorbic acid as follows ➢ List the RDA, sources and coenzyme forms (C1) ➢ Describe the biochemical functions (C2) ➢ List the features of disorders associated with their deficiencies (C1) 4. Study the fat soluble vitamins A, D, E, K as follows ➢ List the RDA, sources and chemical forms. (C1) ➢ Describe the biochemical functions. (C2) ➢ List the features of disorders associated with their deficiencies and excess. (C1)			
16. MALNUTRITION			
At the end of this chapter, a student should be able to 1. Define the classes of protein energy malnutrition. (C1) 2. Compare the similarities and differences between marasmus and kwashiorkor (C2)			1
17. CLINICAL BIOCHEMISTRY			
A. GLUCOSE HOMEOSTASIS AND DIABETES MELLITUS At the end of this chapter, a student should be able to 1. Summarize the effect of the hormones involved in blood glucose homeostasis (C2) 2. Study diabetes mellitus as follows • Define (C1) • Classify and compare the types 1 and 2 (C2) • Mention the signs and symptoms (C1) • Mention the normal plasma levels of fasting, postprandial and random glucose & their utility in diagnosis (C1) • Explain the relevant investigations involved in the diagnosis and management (HbA_{1C}, procedure and interpretation of GTT, microalbuminuria) (C2) • Explain the biochemical basis for features of diabetic ketoacidosis (C2)			2
B. SIGNIFICANCE OF ESTIMATIONS OF VARIOUS BIOCHEMICAL PARAMETERS IN BLOOD At the end of this chapter, a student should be able to 1. Mention the normal serum levels of glucose, protein, urea, uric acid,			1

Unit	Content	Competencies	Number of Hours
	bilirubin, cholesterol and creatinine and conditions in which they are altered **(**C1**)**		
	C. ACID BASE BALANCE AND DISTURBANCES At the end of this chapter, a student should be able to: 1. Define the terms acid, base, pH and pKa (C1) 2. Study buffers as follows • Define (C1) • Write the Henderson-Hasselbalch equation for different buffer systems (C1) • List the principal buffer systems in ECF, ICF and in urine (C1) • Mention the pKa value, normal ratio of base/acid in the plasma for bicarbonate and phosphate buffer systems (C1) 3. Study acid-base disorders as follows • Define the different classes (C1) • Explain the conditions causing acidosis & alkalosis (metabolic & respiratory) (C2) **4.** Mention the primary and compensatory changes in acid base disorders (C1)		1
	Unit 18: MOLECULAR BIOLOGY		
	At the end of this chapter, a student should be able to 1. Name the purine and pyrimidine bases (C1) 2. Define nucleosides and nucleotides with examples (C1) 3. Illustrate the Watson and Crick model of B-DNA structure (C2) 4. List the different types of RNA (C1) 5. Recall the structural differences between DNA and RNA (C1) **6.** Define replication, transcription and translation (C1)		2

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Assessment	4	16
Total	**49**	**151**

Assessment Methods:	
Formative:	**Summative:**
	Mid Semester/Sessional Exam (Theory)
	End Semester Exam (Theory)

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**		
Mid Semester / Sessional Examination 1	x	x				
Sessional Examination 2	x	x	x	x		
End Semester Exam	x	x	x	x		

Feedback Process:	Mid-Semester Feedback

Main Reference:	1. Satyanarayana U & Chakrapani U. Essentials of Biochemistry, 2nd edition. India: Books & Allied Publishers; 2008 2. Nayak SB. Handbook of Biochemistry for Allied & Nursing Students, 2nd edition. India: Jaypee Publishers; 2008

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Communication Skills**
Course Code	**CSK1001**
Academic Year	First Year
Semester	II
Number of Credits	02
Course Prerequisite	Nil
Course Synopsis	1. Equips the students with primary oral and written communication skills in English. 2. Orients students to focus on diverse interactive situations and enhances the interpersonal skills required in a professional environment.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Identify the components of communication skills and apply them in a professional setting (C3)
CO2	Outline effective oral communication skills in diverse context (C2)
CO3	Summarize different ways to write creatively, coherently and effectively on a given topic (C2)
CO4	Develop active listening skills involving feedback in diverse interactive situation. (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1					x		x	
CO2					x		x	
CO3		x					x	
CO4			x				x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Communication Skills	1. Define Communication (C1) 2. Outline the process and barriers in Communication (C2) 3. Explain the types of communication (C2) (Oral, Verbal, non-verbal, dyadic) 4. How to improve spoken skills (C1)(Telephone, face – to- face) 5. How to improve communication (C1) 6. Apply the concepts of communication skills in a professional setting (C3) 7. Identify the difference between formal and informal communication (C3)	6

Content	Competencies	Number of Hours
Unit 2:		
Reading Skills	1. Explain the types of reading (C2) (Oral, Silent, Extensive, Scanning, Skimming) 2. Outline the reading techniques (C2) (3Q3R) 3. What is the difference between scanning and skimming(C1) 4. Define source of information (C1) 5. Explain feedback on LSWR in individual presentation (C2) 6. Summarise the role played by prepositions in understanding what to read (C2)	4
Unit 3:		
Listening Skills	1. Explain the types of listening (C2) 2. Summarize the context and purpose of listening (C2) 3. Explain various types of listening obstacles (C2) 4. How to improve hearing and focused listening (C1) 5. What is facilitating understanding, static & process description-gambits (C1)	8
Unit 4:		
Writing skills	1. What is the difference between spoken and written form (C1) 2. How words are formed into phrases & clauses (C1) 3. Outline writing paragraphs, cohesion, coherence (C2) 4. Explain summary, precise and essay writing (C2) 5. How to write a formal and informal letters (C1) 6. How to write a resume /CV(C1) 7. Explain the role of visual aids and meetings in writing (C2) 8. Explain the importance of abbreviations and punctuations in writing(C2)	8

Learning Strategies, Contact Hours and Student Learning Time (SLT):

Learning Strategies	Contact Hours	Student Learning Time (SLT)
Lecture	26	78
Seminar	-	
Small group discussion (SGD)	-	
Self-directed learning (SDL)	-	
Problem Based Learning (PBL)	-	
Case Based Learning (CBL)	-	
Clinic	-	
Practical	-	
Revision	-	
Assessment	-	
Total	**26**	**78**

Assessment Methods:					
Formative:	**Summative:**				
Assignments	Mid Semester/Sessional Exam (Theory)				
Mapping of Assessment with COs:					
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**
Assignments		x	x	x	
Mid Semester / Sessional Examination		x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. Jain A K, Bhatia P & Sheikh AM. Professional Communication Skills, 5th edition. New Delhi: S Chand and Company; 2008				
	2. Raman M & Singh P. Business communication. New Delhi: Oxford University Press; 2012				
Additional References	3. Raman M & Sharma S. Technical communication: Principles and Practice. New Delhi: Oxford University; 2014				

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Environmental Sciences**
Course Code	**EIC1001**
Academic Year	First Year
Semester	II
Number of Credits	1
Course Prerequisite	Nil
Course Synopsis	1. Aim to give students a general understanding of environmental science and introduce them to some of the main principles 2. It covers the study of subjects for example understanding of earth procedures, evaluating alternative energy frameworks, mitigation and pollution control, natural resource management, effects of global climate change and so on

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the role of Environmental Science, its multidisciplinary nature in conservation of global environment (C2)
CO2	Describe the natural resources, utility and the role of ecosystems in maintaining planetary cycles (C2)
CO3	Outline the types, sources, prevention and control measures of pollution (C2)
CO4	List the laws, acts and policies related to environmental protection in India (C1)
CO5	Explain the types, mitigation and management techniques of disaster (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x					x		
CO2	x			x				
CO3	x					x		
CO4			x				x	
CO5			x			x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Environmental Studies and multi-disciplinary nature	1. Explain the meaning, objectives and major environmental issues (C2) 2. What is sustainable development? (C1) 3. Explain the global environmental concerns (C2)	2

Content	Competencies	Number of Hours
Unit 2:		
Biodiversity, Ecosystem, Energy and natural resources	1. Classify the natural resources (C2) 2. List the renewable and non- renewable resources (C1) 3. Outline the consumption of renewable and non-renewable resources 4. Explain the conservation methods of renewable and non-renewable resources 5. Outline the availability of water resources, forest, land and mineral resources. 6. Summarize the different types of energy (C2) (Conventional sources & Non-Conventional sources of energy, solar energy, Hydro electric energy, Wind Energy, Nuclear energy, Biomass & Biogas, Fossil Fuels, Hydrogen as an alternative energy) 7. Define Ecosystem (C1) 8. Explain the meaning, structure and functions of ecosystem (C2) 9. Explain the biotic and abiotic components of ecosystem (C2) 10. Describe the trophic levels in ecosystem (C2) 11. What is an energy flow in an ecosystem (C1) 12. Explain Biodiversity and its conservation (C2) (in situ & ex situ, IUCN red list)	4
Unit 3:		
Environmental Pollution	1. Explain the various types of Environmental Pollution (C2) (water, air, land, noise, solid waste, Biomedical waste, nuclear pollution, marine pollution)	2
Unit 4:		
Environmental laws and legislations	1. Outline the environmental laws and legislations (C2) (Related to general, air, water, biodiversity and forests) 2. Explain the roles and responsibilities of state and central Pollution control Boards (C2) 3. What is Environmental impact assessment (EIA) (C1)	2
Unit 5:		
Disaster management	1. Define disaster (C1) 2. What is disaster management? (C1) 3. Classify the types of disaster (C2) 4. What is disaster risk formula (C1) 5. Explain the phases in Disaster management phases (C2) (Disaster management cycle, Emergency response and recovery, Hazardous waste spills and dangers posed)	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	39
Seminar	-	
Small group discussion (SGD)	-	
Self-directed learning (SDL)	-	
Problem Based Learning (PBL)	-	
Case Based Learning (CBL)	-	
Clinic	-	
Practical	-	
Revision	-	
Assessment	-	
Total	**13**	**39**

Assessment Methods:	
Formative:	**Summative:**
Assignments	Mid Semester/Sessional Exam (Theory)

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Assignments			**x**	**x**	**x**
Mid Semester / Sessional Examination	**x**	**x**	**x**		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Joseph B. Environmental Studies. New Delhi" Tata McGraw-Hill Publishing Company Ltd.; 2008. 2. Debi A. "Environmental Science and Engineering", India: Universities Press (India) Pvt. Ltd.; 2012.
Additional References	1. Kanda M. Disaster Management in India evolution of institutional arrangements & operational strategies. India: BS Publications; 2017. 2. Student guide: Environment Reader for Universities, based on UGC syllabus published by Centre for Science and Environment; 2017. 3. Lakshmi GS, Prasadini P, Thatikunta R & Tayaru V (Editors) Environmental science: A Practical Manual. India: BS Publications; 2010.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Indian Constitution**
Course Code	**EIC1001**
Academic Year	First year
Semester	II
Number of Credits	01
Course Prerequisite	Nil
Course Synopsis	1. To provide understanding of knowledge of the Indian constitution. 2. To familiarize students with the fundamental rights and duties. 3. To understand the importance of constitutional laws. 4. To understand the correlation between Indian constitution, democracy and society.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the salient features, importance and need of the Constitution (C2)
CO2	Infer the need of fundamental rights in a democratic system for a holistic development of a society (C2)
CO3	Outline the directions given to the state by the constitution and fundamental duties of a citizen towards the state (C2)
CO4	Explain the working nature of State and Centre, roles and responsibilities of President and Governors, amendments emergency powers enjoyed by the government (C2)
CO5	Explain various laws listed under IPC and CrPC and understand importance of voting in a democracy and RTI (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2				x	x			
CO3			x				x	
CO4						x		x
CO5				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Indian Constitution	1. Outline the evolution of the Legal System (C1) (pre-colonial and colonial times, Common Law, Civil Law and Socialist Legal System) 2. Explain the constitutional history and constitutional assembly (C2) 3. Explain the various organs of the Government	3

Content	Competencies	Number of Hours
	(C2) (Executive, Legislature and Judiciary, and Panchayat institutions) 4. Summarise the functions of high court and supreme court of India (C2)	
Unit 2:		
Fundamental Rights	1. Explain the individual rights and fundamental rights (C2) 2. Outline the history of the demand for fundamental rights (C2) 3. Classify the fundamental rights (C2) 4. Explain how fundamental rights are a guarantee against state action (C2) 5. Summarise Article 14 to Article 30 (C2) 6. Explain supreme court as the guardian of Fundamental Rights (C2)	4
Unit 3:		
Fundamental Duties and Directive Principles of State Policy	1. Explain fundamental duties and its enforcement (C2) 2. Summarise the utility and the scope of DPSP(C2) 3. Outline the socialistic pattern of society (C2) 4. Explain the conflict between fundamental rights and DPSP (C2)	3
Unit 4:		
Role of President and Governors/ Cabinet	1. What is the procedure followed while electing a President (C1) 2. Explain the power and duties of the President (C2) 3. Outline the power and duties of the Governors (C2) 4. Explain the role and functions of the council of Ministers (C2)	2
Unit 5:		
Role of citizens, Constitutional laws(IPC and CrPC), RTI	1. Explain the role of citizens in a democracy (C2) 2. Explain constitutional laws (C2) 3. Explain the Indian Penal Code and Code of Criminal Procedure (C2) 4. Summarise right to Information (C2)	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	15	45
Seminar	-	
Small group discussion (SGD)	-	
Self-directed learning (SDL)	-	
Problem Based Learning (PBL)	-	

Case Based Learning (CBL)	-	
Clinic	-	
Practical	-	
Revision	-	
Assessment	-	
Total	**15**	**45**

Assessment Methods:	
Formative:	**Summative:**
Assignments	Mid Semester/Sessional Exam (Theory)

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Assignments		x		x	x
Mid Semester / Sessional Examination	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Subhash C. Kashyap, Our Constitution. India: National Book Trust; 2011 2. Bhakshi PM. The Constitution of India. India: Universal Law Publishing; 2017
Additional References	1. Ambedkar BR. The Constitution of India. India: Educreation Publishing; 2020 2. Chandra B. History of Modern India. India: Orient Black Swan; 2009 3. Basu DD. Introduction to the Constitution of India. India: Lexis Nexis; 2013

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Assessments in Occupational Therapy- I (Theory & Practical)**
Course Code	**OCT1201 (Theory) / OCT 1211 (Practical)**
Academic Year	First year
Semester	2
Number of Credits	4 [Theory -2; Practical - 2]
Course Prerequisite	Introduction to Occupational Therapy
Course Synopsis	1. This course describes the occupational therapy evaluation process. 2. This course includes aspects of evaluation such as interviewing, observation, palpation and assessment of range of motion, muscle strength, sensation, and reflexes.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the occupational therapy evaluation process. C2.
CO2	Develop the occupational profile of a client. C2. P3
CO3	Explain the rationale, purpose, principles and methods of evaluating sensation, range of motion, manual muscle strength, and reflexes. C2, P3, A2
CO4	Demonstrate techniques for conducting occupational therapy evaluation including sensation, range of motion, manual muscle strength, and reflexes. P2

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1				x		x		
CO2	x			x				
CO3	x	x						
CO4					x	x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: This unit covers the basic occupational therapy evaluation process and procedures		
Occupational Therapy Evaluation Process	1. Explain the differences between screening, assessment, and evaluation. C2 2. Describe the occupational therapy evaluation. C2 3. Explain the concept of screening and referral system. C2 4. Explain how to review documents. C2 5. Describe the client precautions and safety. C2, P3 6. Identify strategies for interviewing about, observing, and assessing occupational performance. C2	8

Content	Competencies	Number of Hours
	7. Identify and discuss personal and contextual factors that influence the evaluation process. C2 8. Explain the factors influencing interpretation and intervention planning. C1	
Developing the occupational profile	1. Describe the use of interviewing as an evaluation procedure in occupational therapy. C2 2.Describe the process of gathering information.C2 3. Identify client strengths and problem areas. C2, P3 4. Explain the priorities for interventions. C2, P3 5. Identify features of an effective interview. C2 6. Identify available standardized interviews and self-reports designed to identify clients' occupational needs and desires. C2 7. List self-report measures used for children, adolescent and adults. C2 8. Demonstrate self-report measures used for children, adolescents, and adults. C2, P2, A2 9.Demonstrate interviewing skills C2, P2, A2 10. Construct occupational profile of client. C3, P2, A2	10
Unit 2: This unit covers detailed evaluations and assessments for the musculoskeletal and sensory systems.		
Assessing Range of Motion	1.Explain the definitions for Active Range of motion, Passive ROM & Functional ROM. C2 2. Discuss the principles of joint measurement. C2 3. Explain methods of joint measurement. C3 4. Describe the types of goniometer. C2 5. Discuss the results of assessment as the basis of treatment planning and method of recording measurements. C2 6.Identify the measurement for recording ROM 7.Describe the procedure in Joint measurement, C2 8. Discuss the limitations, contraindications and precautions. C2 9. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Shoulder. C2 P2 A3 10. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Elbow. C2 P2 A3 11. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Forearm. C2 P2 A3 12. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Wrist. C2 P2 A3 13. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Fingers. C2 P2 A3 14. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Neck (Cervical	20

Content	Competencies	Number of Hours
	spine). C2 P2 A3 15. Demonstrate the procedure of assessment of joint range of motion of upper extremity: Trunk. C2 P2 A3 16. Demonstrate the procedure of assessment of joint range of motion of Lower extremity: Hip. C2 P2 A3 17. Demonstrate the procedure of assessment of joint range of motion of Lower extremity: Knee. C2 P2 A3 18. Demonstrate the procedure of assessment of joint range of motion of Lower extremity: Ankle. C2 P2 A3 19. Demonstrate the procedure of assessment of Passive joint range of motion of upper extremity. C2 P2 A3 20. Demonstrate the procedure of assessment of Passive joint range of motion of Lower extremity. C2 P2 A3	
Assessing Muscle Strength (group)	1. Discuss the causes of muscle weakness. C2 2. Elaborate the purpose of muscle testing. C2 3. Discuss the methods of evaluation. C2 4. Explain the results of evaluation as a basis for treatment planning. C2 5. Describe the relationship between range of motion and muscle weakness. C2 6. Discuss the limitations, contraindications and precautions. C2 7. Explain the general principles of muscle testing. C2 8. Describe the general procedure involve in muscle testing. C2 9. Demonstrate the procedure of evaluating muscle strength for upper extremity: Scapular elevators, neck rotators and lateral flexors C2, P2, A3 10. Demonstrate the procedure of evaluating muscle strength for upper extremity: Scapular adductors and upward rotators, Scapular abductors and downward rotators. C2 P2 A3 11. Demonstrate the procedure of evaluating muscle strength for upper extremity: Shoulder flexors, extensors, abductors, external and internal rotators, shoulder horizontal abductors and adductors. C2 P2 A3 12. Demonstrate the procedure evaluating muscle strength for upper extremity: extremity: Elbow Flexors, extensors, Forearm supinators and pronators. C2 P2 A3 13. Demonstrate the procedure of evaluating muscle strength for upper extremity: Wrist extensors with radial deviators, Wrist extensors with ulnar deviators, wrist flexors with radial deviators and wrist flexors with ulnar deviators. C2 P2 A3	25

Content	Competencies	Number of Hours
	14. Demonstrate the procedure of evaluating muscle strength for upper extremity: Hand muscles. C2 P2 A3 15. Demonstrate the procedure of evaluating muscle strength for lower extremity: Hip flexors, extensors, abductors, adductors. C2 P2 A3 16. Demonstrate the procedure of evaluating muscle strength for lower extremity: Hip internal and external rotators. C2 P2 A3 17. Demonstrate the procedure of evaluating muscle strength for lower extremity: knee flexors, extensors. C2 P2 A3 18. Demonstrate the procedure of evaluating muscle strength for lower extremity: Ankle plantar-flexors, ankle dorsi-flexors, invertors and evertors along with foot muscles. C2 P2 A3 19. Demonstrate the procedure of evaluating muscle strength for Neck cervical extensors, cervical extensors and combined neck extensors. C2 P2 A3 20. Demonstrate the procedure of evaluating muscle strength for Neck cervical flexors, cervical flexors and combined cervical flexors C2 P2 A3 21. Demonstrate the procedure of evaluating muscle strength for Trunk rotators muscles. C2 P2 A3 22. Demonstrate the procedure of evaluating muscle strength for Trunk Flexor and Extensor muscles. C2 P2 A3	
Assessing sensations	1. Explain the role of sensation in occupational functioning. C2 2. Discuss neurophysiological foundations of tactile sensation & somatosensory deficit patterns. C2 3. Explain the principles of sensory testing. C2 4. Discuss the interpretation of evaluation findings. C3 5. Demonstrate the procedure of standardized tests for touch threshold. C2 P2 A3 6. Demonstrate the procedure of standardized tests for Static and moving two-point discrimination. C2 P2 A3 7. Demonstrate the procedure of standardized tests for touch localization, vibration threshold, modified pick up test. C2 P2 A3 8. Demonstrate the procedure of standardized tests for touch awareness, pin prick and pain awareness. C2 P2 A3 9. Demonstrate the procedure of Non-standardized tests: Temperature awareness, vibration awareness, stereognosis. C2 P2 A3 10. Demonstrate the procedure of Non-standardized tests: Temperature awareness, Moberg pick up	11

Content	Competencies	Number of Hours
	test, Proprioception and Kinaesthesia. C2 P2 A3	
Assessing reflexes	1. Explain the definitions of deep tendon reflexes and superficial reflexes. C2 2.Illustrate the scales for grading reflexes.C2 3. Demonstrate the procedure of evaluation of biceps and triceps, supinator reflexes. C2 P2 A3 4. Demonstrate the procedure of evaluation of knee, ankle tendon reflexes, Babinski reflex. C2 P2 A3	4

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	--	--
Small group discussion (SGD)	--	--
Self-directed learning (SDL)	--	--
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	--	--
Practical	52	156
Revision	--	--
Assessment	--	--
Total	**78**	**234**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory and/or Practical)
Quiz	End Semester Exam (Theory and/or Practical)
Viva	Viva
Assignments/Presentations	Record Book
Clinical assessment (OSCE, OSPE, WBPA)	
Clinical/Practical Log Book/ Record Book	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x		
Quiz / Viva				x
Assignments/Presentations		x	x	
End Semester Exam	x	x	x	x

Feedback Process	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Pedretti's Occupational Therapy: Practice skills for physical dysfunction. 7th ed. Missouri: Mosby, an imprint of Elsevier Inc.; 2013. 2. Vining RM, Trombly CA. Occupational Therapy for Physical Dysfunction. 6th ed. Philadelphia: Wolters Kluwer Health

	Inc; 2008.
Additional References	1. Schell BB, Gillen G, Scaffa ME, Cohn ES. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2. Hislop HJ, Montgomery J. Daniels, and Worthingham's Muscle Testing: Techniques of Manual Examination. 8th ed. New Delhi: Elsevier; 2007. 3. Crepeau EB, Cohn ES, Schell BB. Willard & Spackman's Occupational Therapy. 11th ed. USA: Lippincott Williams & Wilkins; 2009.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Basic Competencies for Occupational Therapists- II**
Course Code	**OCT1202**
Academic Year	First year
Semester	II
Number of Credits	3
Course Prerequisite	Introduction to Occupational Therapy, Anatomy- I, Anatomy Practical-I, B0asic Competencies for Occupational Therapists-I
Course Synopsis	1.This course describes the basics for biomechanical assessments such as surface anatomy 2. This course also includes aspects of evaluation of vital signs.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Demonstrate appropriate palpation techniques (C2, P3, A2)
CO2	Demonstrate appropriate vital signs evaluations (C2, P3, A2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2				x	x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: This unit will provide an overview of surface anatomy and its application to occupational therapy practice		
	1. Explain the definitions of palpation. C2 2. Describe the characteristics of palpation. C2 3. Explain the concepts of touch. C2 4. Discuss the effects of palpation on patient. C2 5. Illustrate the techniques of palpation. C2 6. Identify the issues related to palpation. C2 7. Demonstration of palpation of upper extremity Bones: Pectoral Region. C2, P2, A3 8. Demonstration of palpation of upper extremity Bones: Elbow region. C2, P2, A3 9. Demonstration of palpation of upper extremity Bones: wrist and Hand. C2, P2, A3 10. Demonstration of palpation of upper extremity joint: Pectoral girdle & shoulder joint. C2, P2, A3 11. Demonstration of palpation of upper extremity joint: Elbow and Radio-ulnar joint. C2, P2, A3 12. Demonstration of palpation of upper extremity joint: Wrist and Finger. C2, P2, A3 13. Demonstration of palpation of lower extremity	20

Content	Competencies	Number of Hours
	joint: Hip. C2, P2, A3 14. Demonstration of palpation of upper extremity joint: Knee & Ankle, Foot. C2, P2, A3 15.Demonstration of palpation of upper extremity: Bones: Hip, Knee & Ankle C2, P2, A3 16. Demonstration of palpation of muscles involved in upper extremity movements. C2, P2, A3 17. Demonstration of palpation of lower extremity muscles. C2, P2, A3 18. Demonstration of palpation in Head, Neck & Face. C2, P2, A3 19. Demonstration of palpation in Thorax and Spine. C2, P2, A1 20. Demonstration of palpation: Arteries, veins and nerve. C2, P2, A1	
Unit 2: This unit will provide an overview of assessment of vital signs including pulse rate, respiratory rate, blood pressure and how it applies to occupational therapy practice		
	1.Explain the methods of assessing blood pressure and heart rate.C2 2.Explain the method of assessing respiratory rate and temperature.C2 3.Classify normal and abnormal blood pressure, heart rate, respiratory rate and temperature.C2 4. Identify the average readings for assessing blood pressure, respiratory rate, heart rate and temperature. C2 5. Demonstrate skills in measuring temperature. C2 P2 A3 6. Demonstrate skills in measuring Blood pressure. C2 P2 A3 7. Demonstrate skills in measuring heart rate. C2 P2 A3 8. Demonstrate skills in measuring respiratory rate. (C2 P2 A3) 9. Demonstrate skills in measuring temperature. (C2 P2 A3)	9
Unit 3: This unit will provide students with an opportunity to practice basic evaluation skills required for an occupational therapist		
	1.Explain the importance of interviewing and developing an occupational profile (C2) 2.Explain the process of gathering information from clients (C2) 3.List the types of interviews (C1) 4.Demonstrate conducting interviews for clients (C2) 5.Demonstrate conducting interviews with stakeholders (C2) 6.Discuss strengths and benefits of interview techniques (C2)	10

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	39
Seminar	--	--
Small group discussion (SGD)	13	39
Self-directed learning (SDL)	13	39
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	--	--
Practical	--	--
Revision	**--**	**--**
Assessment	**--**	**--**
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	
Assignments/Presentations	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x				
Quiz / Viva			x			
Assignments/Presentations	x	x	x			
End Semester Exam						

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Schell BB, Gillen G, Scaffa ME, Cohn ES. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2013
	2. Crepeau EB, Cohn ES, Schell BB. Willard & Spackman's Occupational Therapy. 11th ed. USA: Lippincott Williams & Wilkins; 2009.
Additional References	1. Derek F, Owen HJ. Field's Anatomy, palpation, and surface markings. 4th ed. Edinburgh: Elsevier; 2006.

SEMESTER - III

COURSE CODE	:	COURSE TITLE
PAT2103	:	Pathology
MCB2102	:	Microbiology
OCT2101	:	Biomechanics and Kinesiology
OCT2102		Assessments in Occupational Therapy- II
OCT2111		Assessments in Occupational Therapy- II (Practical)
OCT2151	:	Occupational Therapy Project
OCT2131		Clinical Fieldwork- II
*** ****	:	Open Elective- I

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Pathology**
Course Code	**PAT2103**
Academic Year	Second Year
Semester	III
Number of Credits	3
Course Prerequisite	Nil
Course Synopsis	This module is devoted to the structural and functional changes in cells, tissues and organs that underlie disease. Pathology examines diseases and their mechanisms including the what, when, where, why and how of disease. It forms an integral part of clinical medicine and allied streams, as it is required to understand the symptoms and signs of disease, the modes of diagnosis and the rationale for clinical care.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	To demonstrate their understanding of the basic principles of pathology both as a medical science and as a clinical discipline (C2)
CO2	To explain the disease mechanisms, which include basic concepts, inflammation and neoplasms of specific systems and organs, and haematological conditions and understand the significance of the mechanisms in the health profession education (C2)
CO3	To use the principles of laboratory tests in the diagnosis of diseases (C4)
CO4	To apply the knowledge of Pathology to clinical situations for understanding the disease process along with clinical manifestations and relate the relevance of knowledge of pathology to the practice of health profession (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	**x**							
CO2	**x**							
CO3	**x**	**x**						
CO4	**x**	**x**						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Basic concepts and general pathology		
Introduction to pathology & basic terminologies	**Terminologies** 1. Introduction to pathology 2. Recognise the relevance of Pathology (C2) 3. Define the basic terminologies and branches of	1

Content	Competencies	Number of Hours
	Pathology (C1) a. Aaetiology b. Pathogenesis c. Pathological and clinical manifestations d. Complications & sequelae e. Prognosis f. Syndrome g. Lesion 4. Explain the scope of the following branches of pathology: (C2) a) Histopathology b) Cytopathology c) Haematology	
Cell injury & adaptation	**Cell adaptation** Define cell growth, differentiation and cell adaptation (C1) Describe the various cell adaptations with examples (C2) a) Hypertrophy b) Hyperplasia c) Atrophy d) Metaplasia e) Dysplasia **Necrosis** 1. Define necrosis(C1) 2. Describe the various types of necrosis with clinical examples (C2) a) Coagulative necrosis b) Colliquative necrosis/ Liquefactive necrosis c) Caseous necrosis d) Fibrinoid necrosis e) Fat necrosis f) Gangrene	2
Inflammation	Define inflammation. List the types with examples. (C1) Acute inflammation 1. Define acute inflammation. (C1) 2. Describe the causes and cardinal signs of acute inflammation. (C2) 3. Explain the vascular of acute inflammation. (C2) 4. Describe the cellular events in acute inflammation. (C2) 5. Explain the sequelae of acute inflammation. (C2) 6. Explain the beneficial, harmful and systemic effects of acute inflammation. (C2) Chronic inflammation 1. Define chronic inflammation. (C1) 2. List the causes of chronic inflammation. (C1) 3. Describe the macroscopic and microscopic features in chronic inflammation. (C2) 4. List the cells in chronic inflammation. (C1) 5. Define granulomatous inflammation. (C2) 6. List the components of a granuloma and describe its	3

Content	Competencies	Number of Hours
	morphology (C2) 7. List the causes of granulomatous inflammation. (C1)	
Healing & repair	Wound healing 1. Define granulomation tissue and describe the formation of granulation tissue. (C2) 2. Describe the following: (C2) a. Healing by first intention. b. Healing by second intention. c. Wound organization, contraction and scarring. 3. Explain the factors which modify (influence) healing and repair. (C2)	1
Fluid & haemodynamic derangements	Oedema 1. Define oedema. (C1) 2. List the types of oedema. (C1) 3. Describe the pathogenesis and clinical features of the different types of oedema. (C2) Shock 1. Define shock. (C1) 2. List the various types of shock. (C1) 3. Describe the pathogenesis of septic and hypovolemic shock. (C2) Thrombosis (Arterial & Venous) 1. Define thrombosis. (C1) 2. Describe the factors influencing pathogenesis of thrombosis. (C2) 3. List causes of arterial and venous thrombosis. (C1) 4. List the fates of thrombus. (C1) Embolism 1. Define embolism. List the types of embolism with examples. (C1) 2. Describe the clinicopathologic consequences of pulmonary thromboembolism (C2) Infarction 1. Define infarction. (C1) 2. Describe the types and clinical significance of infarction. (C2)	4
Neoplasia	1. Define neoplasia (C1) 2. Describe the nomenclature of tumours with examples (C2) 3. Define dysplasia and anaplasia (C1) 4. Describe the differences between benign and malignant tumours (C2) 5. Define carcinogenesis. List the types of carcinogens with example of each (C1) 6. Describe the aetiology & predisposing factors of tumours (C2) 7. Define metastasis. (C1) 8. Describe the routes of metastasis with examples (C2) 9. Describe the prognostic factors of tumours with emphasis on staging & grading (C2)	4

Content	Competencies	Number of Hours
	10. Describe the various modalities for diagnosis of cancer (C2)	
Infectious diseases	Tuberculosis 1. Describe the aaetiology and mode of transmission of tuberculosis (C2) 2. Describe the clinical features of tuberculosis. (C2) 3. Describe the morphology of primary, secondary and miliary tuberculosis. (C2) Leprosy 1. List the aetiological factors of leprosy (C1) 2. Classify leprosy (C1) 3. Describe the morphology of lepromatous and tuberculoid leprosy (C2)	4
Genetics	1. Describe the basic concepts of genetics (C2) 2. Define with suitable examples (C1) a. Autosomal dominant b. Autosomal recessive c. X-linked recessive d. Chromosomal abnormalities 3. Define karyotyping (C1)	1
Unit 2: Haematology		
Diseases of RBCs	1. Define anaemia (C1) 2. Classify anaemia based on aaetiology and morphology (C4) 3. Describe the clinical features, aaetiology and basic investigation of (C2) a. Nutritional anaemias(B12/folate deficiency, iron deficiency) b. Haemolytic anaemias(thalassemia, sickle cell anaemia)	3
Bleeding disorders	1. List the types of bleeding disorders (C1) 2. Describe the clinical features and basic investigation of haemophilia (C2) 3. List the causes of thrombocytopenia (C1) 4. Describe the clinical features and basic investigation of immune thrombocytopenia (C2)	1
Diseases of WBC	1. Define leukemia (C1) 2. List the types of leukemia (C1) Acute Leukaemia (AML, ALL) 1. Describe the clinical features of AML & ALL. (C2) 2. Describe the laboratory diagnosis of AML and ALL (C2)	2
	Chronic leukaemia (CML, CLL) 1. Describe the clinical features, blood findings and chromosomal abnormality in CML (C2) 2. Describe the clinical features and laboratory diagnosis of CLL (C2)	
Unit 3: Systemic Pathology		
Blood vessels &	**Hypertension**	5

Content	Competencies	Number of Hours
heart	1. Define hypertension (C1) 2. Classify hypertension (C4) 3. Describe the effects of hypertension on various organs (C2) **Atherosclerosis** 1. Define atherosclerosis (C1) 2. List the sites of involvement by atherosclerosis (C1) 3. Describe the predisposing factors, complications & clinical effects of atherosclerosis (C2) **Ischemic heart disease/Coronary artery disease** 1. Define ischemic heart disease (C1) 2. Describe the clinical spectrum of the disease (with reference to angina and myocardial infarction) (C2) **Aneurysm** 1. Define aneurysm (C1) 2. List the causes, types and complications of aneurysms (C1) **Rheumatic heart disease** 1. Define rheumatic heart disease (C1) 2. Describe its aaetiology & clinical features (C2) **Cardiac failure** 1. Define cardiac failure (C1) 2. List the causes of cardiac failure (C1) 3. Describe its pathophysiology & clinical features (C2)	
Respiratory system	**Pneumonia** 1. Define pneumonia (C1) 2. List the types of pneumonia(C1) 3. Describe the aetiology and clinical features of pneumonia (C2) **Chronic obstructive airway disease** 1. Define chronic obstructive airway disease. (C1) 2. List the types of chronic obstructive airway disease.(C1) **Emphysema** 1. Define emphysema(C1) 2. List the types of emphysema (C1) 3. Describe the aetiology and clinical features of emphysema (C2) **Chronic bronchitis** 1. Define chronic bronchitis (C1) 2. Describe the aetiology and clinical features of chronic bronchitis (C2) **Bronchiectasis** 1. Define bronchiectasis (C1) 2. List the types of bronchiectasis. (C1) 3. Describe the aetiology and clinical features of bronchiectasis (C2) **Asthma** 1. Define asthma (C1)	4

Content	Competencies	Number of Hours
	2. List the types of asthma (C1) 3. Describe the aetiology and clinical features of asthma (C2) **Pneumoconiosis** 1. Define pneumoconiosis (C1) 2. List the types of pneumoconiosis (C1) **3.** Describe the aetiology and clinical features of pneumoconiosis (C2)	
Gastrointestinal tract & liver	**Gastric & duodenal ulcers** 1. Definition gastric and duodenal ulcer (C1) 2. Describe the aetiology, gross pathology and clinical features of gastric and duodenal ulcer (C2) **GIT malignancies** 1. List the types of common GIT malignancies (C1) 2. Describe their predisposing factors & clinical features (C2) **Jaundice** 1. Define jaundice (C1) 2. List the types of jaundice with examples (C1) **Viral hepatitis** 1. Describe the aetiology of viral hepatitis (C2) 2. List the modes of infection (C1) 3. Describe the clinical features of viral hepatitis (C2) **Cirrhosis of liver** 1. Define cirrhosis (C1) 2. List the causes of cirrhosis (C1) **Liver failure** 1. Define liver failure (C1) 2. List the causes of liver failure (C1) 3. Describe its pathophysiology & clinical features (C2)	4
Renal system	Define nephrotic syndrome & nephritic syndrome with suitable examples (C1) **Renal failure** 1. Define renal failure (C1) 2. List its types & describe the clinical features (C2)	1
Endocrine system	1. Define hyperthyroidism & hypothyroidism (C1) 2. Describe the causes, clinical features and laboratory diagnosis of hyperthyroidism and hypothyroidism (C2) 3. Describe the types, causes & clinical features of goitre (C2) Describe types, clinical features, complications & laboratory diagnosis of diabetes (C2)	2
Nervous system	Define Cerebrovascular diseases (C1) Describe its causes and clinical features (C2)	1
Musculoskeletal system	**Fracture** 1. Define fracture (C1) 2. List the types of fracture (C1) 3. Describe the process of fracture healing (C2) 4. List the factors influencing fracture repair (C1)	2

Content	Competencies	Number of Hours
	Osteomyelitis 1. Define osteomyelitis (C1) 2. Describe the aetiology, types and clinical features of osteomyelitis (C2) Define and list the clinical features of Rheumatoid arthritis, osteoarthritis and osteoporosis (C1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**45**	**135**

Assessment Methods:	
Formative:	**Summative:**
Unit Test - Nil	1st Sessional Exam - SEQ (theory) 2nd sessional exam - MTF (theory)
Quiz - Nil	University exam – SEQ (theory)
Viva - Nil	Viva - Nil
Assignments/Presentations	Record Book - Nil
Clinical assessment (OSCE, OSPE, WBPA)	- Nil
Clinical/Practical Log Book/ Record Book	- Nil

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester /Sessional Examination 1	x	x	x	x		
Sessional Examination 2	x	x	x	x		
End Semester/University Exam	x	x	x	x		

Feedback Process:	Mid semester feedback End-Semester Feedback
Main Reference:	1. Mohan H. Essential Pathology for Dental students, 3rd edition, India: Jaypee Publishers; 2010 2. Underwood JCE & Cross S S. General and systemic pathology, 7th edition, China: Churchill Livingstone; 2018
Additional References	

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Microbiology**
Course Code	**MCB2102**
Academic Year	Second Year
Semester	II
Number of Credits	2
Course Prerequisite	Nil
Course Synopsis	This course focuses on acquiring the knowledge pertaining to basics of medical microbiology, host immune response, healthcare associated infections and aseptic measures to prevent infections

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the process of disease causation by infectious agents and appraise the role of microbiology laboratory in the diagnosis, management and control of infectious diseases (C2)
CO2	Explain the development of immune response, its relation to infection and other diseases with an immunological basis (C2)
CO3	Explain the implications of antibiotic susceptibility (C2)
CO4	Understanding the principles of asepsis and infection control in clinical practice (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Introduction to medical microbiology	i) Historical introduction to microbiology a. Describe the contributions of: (C1) • Louis Pasteur • Robert Koch ii) Classify the microorganisms (C2) iii) List the branches of microbiology and their significance (C1)	1
Bacterial anatomy and classification	i) Explain the bacterial cell structure, organelles and their functions (C2) ii) Explain the bacterial envelope of gram positive and gram negative bacteria (C2) iii) Explain the following bacterial structure and	2

Content	Competencies	Number of Hours
	their significance (C2) a. Cytoplasm b. Ribosomes c. Mesosomes d. Nucleoid e. Inclusion granules f. Flagella g. Pili h. Capsule i. Plasmid j. Spores iv) Classify bacteria based on morphology and nutrition (C2)	
Growth, cultivation and identification of bacteria	i) Explain the following: (C2) a. Bacterial growth curve b. Cultivation of bacteria • Culture media • Culture methods c. Identification of bacteria • Microscopy and Staining techniques • Biochemical reactions • Serology • Molecular techniques	2
Antimicrobial susceptibility	i) Explain the disc diffusion methods – Kirby Bauer's and E - test (C2)	1
Introduction to virology, mycology & parasitology	i) Explain the following: (C2) a. General features of viruses b. Virion structure c. Classification of viruses d. Diagnosis of viral diseases e. General properties and classification of fungi (morphological classification) f. Infections produced by fungi and their diagnosis g. General properties and classification of parasites h. Parasitic infections and their diagnosis	3
Sterilization and disinfection	i) Classify sterilization methods (C2) ii) Explain the following (C2) a. Physical: Heat b. Sterilization by heat c. Dry heat sterilization – • Hot air oven and incinerator d. Moist heat sterilization • Below 100 ^{o}C, • At 100 ^{o}C • Above 100 ^{o}C e. Classification of disinfectants used in hospital and their mechanism of action	3

Content	Competencies	Number of Hours
Infection & immunity	i) Define infection (C1) a. List the types, sources, routes and spread of infectious diseases (C1) ii) Define and classify immunity (C1) iii) Explain the following: (C2) a. Types of immunity b. Types of vaccines iv) List the immunization schedule in India (C1)	2
Antigen & antibody	i) Define antigen (C1) ii) Define(C1) and classify antibodies (C2) iii) Explain the following (C2) a. Functions of antibodies b. Diagnostic importance of antigen-antibody reactions • Agglutination • Immunofluorescence • ELISA	1
Immune response	i) List the cells of immune system (C1) ii) Explain the following: (C2) a. Humoral Immunity - Primary and secondary immune response b. Cell mediated Immunity -Constituents and significance	2
Hypersensitivity	i) Define (C1) and classify hypersensitivity (C2) Explain the following: (C2) a. Immediate hypersensitivity • Mechanisms and mediators of Anaphylaxis and atopy b. Cytotoxic hypersensitivity - Mechanism and associated disorders c. Immune complex hypersensitivity- • Arthus reaction, serum sickness and immune complex diseases d. Delayed type hypersensitivity- Mechanism and clinical importance of • Contact dermatitis and tuberculin type hypersensitivity	2
Autoimmunity	i) Define autoimmunity (C1) ii) Explain the mechanisms of autoimmunity (C2) iii) List the diseases involving predominantly one type of cell or organs (C1) iv) List the diseases involving multiple organs (systemic) (C1)	1
Healthcare Associated Infections	i) List the common Healthcare associated infections (C1) ii) Explain the following: (C2)	1

Content	Competencies	Number of Hours
	a. Causes b. Sources c. Routes of spread d. Host risk factors e. MRSA and its importance f. Prevention g. Investigation	
Standard Precautions And Overview Of Laboratory Diagnosis Of Microbial Infections	i) Explain the following (C2) **a.** Hand hygiene **b.** Personal protective equipment (PPE) **c.** Respiratory hygiene **d.** Sharp safety **e.** Sterile instruments and devices. **f.** Clean and disinfected environmental surfaces ii) Explain laboratory diagnosis of microbial infections (C2) a. Specimen Collection b. Specimen transport c. Specimen processing and handling d. Identification of microbes	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):

Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	24	72
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical		
Revision	2	6
Assessment	4	12
Total	**30**	**90**
Assessment Methods:		
Formative:	**Summative:**	
Unit Test- Nil	Mid Semester- First Sessional Examination SEQ (theory) Second Sessional Examination – MTF (theory)	
Quiz - Nil		
Viva - Nil	Viva - Nil	
Assignments/Presentations- Nil	Record book - Nil	
Clinical assessment (OSCE, OSPE, WBPA) - Nil	Nil	
Clinical/Practical Log Book/ Record Book - Nil	Nil	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x	x	x	-	-
Sessional Examination 2	x	x	x	x	-	-
End Semester / University Exam	-	-	-	-	-	-
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. Baveja CP. Textbook of Microbiology for Dental students. India: Arya Publications; 2019 2. Arora DR & Arora BB. Medical Parasitology. New Delhi: CBS Publishers.					
Additional References	1. Levinson W et al. Review of Medical Microbiology and Immunology. 15th Edition. USA: McGraw-Hill Publications; 2018					

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Biomechanics and Kinesiology**
Course Code	**OCT2101**
Academic Year	Second year
Semester	III
Number of Credits	3
Course Prerequisite	Anatomy (I & II) and Physiology (I & II)
Course Synopsis	1. This course describes the application of concepts of physics on the functioning of human body. 2. It describes kinetics and kinematics of movement of various parts of human body.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the biomechanical concepts and mechanisms related to occupational therapy practice. (C2)
CO2	Explain the rationale and purpose of using biomechanical concepts. (C3)
CO3	Explain the application of biomechanical concepts for various movements and postures. (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: General biomechanics and its application on human body		
Introduction to Biomechanics and Kinesiology	1. Explain the definition and concepts of biomechanics, such as kinesiology and integration of biomechanics with models of occupational therapy practice. (C2) 2. Explain the concepts of kinesiology including static and dynamic biomechanics and differentiate between scalar and vector quantities. (C2) 3. Apply the concepts of kinetics including internal and external forces. (C3) 4. Apply various types and mechanisms of levers including mechanical advantage along with examples. (C3) 5. Illustrate the composition and resolution of forces. (C2)	5
Joint Structure and Function	1. Describe the overview of structure and properties of connective tissue. (C1)	4

Content	Competencies	Number of Hours
	2. Describe various classification of joints. (C2) 3. Describe the structure and movements at synovial joint. (C1) 4. Explain the factors influencing joint motion. (C2)	
Muscle structure and Function	1. Explain the properties of muscle and its structure. (C2) 2. Describe the types of muscles, structural unit of muscle and theories of muscle contraction. (C1) 3. Explain the types of fibre structure and types of muscle contraction. (C2) 4. Explain the factors influencing the force generated by the muscle such as angle, length and cross-section of muscle. (C2) 5. Explain the length-tension and force-velocity relationship of muscle contraction. (C2)	5
Unit 2: Structure and function of vertebral column and upper extremity		
The vertebral column	1. Explain the general structures of vertebrae and vertebral column. (C2) 2. Describe the structure of vertebral column. (C1) 3. Explain the muscle attachments and functions of vertebral column. (C2) 4. Explain the forces acting on regional structures. (C2) 5. Describe the factors affecting the movements of vertebral column. (C1)	5
The proximal upper extremity	1. Describe the structure of the shoulder girdle and shoulder joint. (C1) 2. Summarise the movements and muscles of the shoulder region. (C2) 3. Explain various phases of scapulo-humeral rhythm. (C2) 4. Name the structure of elbow joint and muscles of the elbow region. (C1) 5. Name the structures in forearm and movements of elbow and forearm. (C1)	5
The distal upper extremity	1. Name the structures, movements and muscles of wrist complex. (C1) 2. Explain the structure and function of hand arches. (C2) 3. Name the structure of joints and ligaments of fingers. (C1) 4. Explain the mechanism of wrist and finger coordination. (C2) 5. Summarise the movements and muscles acting on fingers and thumb. (C2)	5
Unit 3: Structure and function of lower extremity, normal and pathological gait		
The lower extremity	1. Describe the structure and functions of pelvic girdle and hip joint. (C1) 2. Illustrate the muscles acting at pelvic girdle and hip joint. (C2)	5

Content	Competencies	Number of Hours
	3. Explain the position, structure and function of knee and ankle joint. (C2) 4. Explain the arches of the foot and muscles of ankle foot complex. (C2) 5. Explain the phenomenon of maintaining balance at knee and ankle joint (C3).	
Normal and pathological gait	1. Explain the phases and mechanism of normal gait. (C2) 2. Explain the gait cycle, events and phases of stance phase. (C2) 3. Explain various temporal variables of gait cycle and evaluate normal gait (C2) 4. Explain various distance variables of gait cycle. (C2) 5. Explain various types of pathological gait. (C2)	5

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	8	24
Self-directed learning (SDL)	5	15
Problem Based Learning (PBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	--

Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Mid Semester / Sessional Examination 1	x	x	x
Quiz / Viva	x	x	x
Assignments/Presentations	x	x	x
End Semester Exam	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback

Main Reference:	**1.** Rybski M. Kinesiology for occupational therapy. New Jersey: Slack; 2004. **2.** Levangie PK, Norkin CC Joint structure and function: A comprehensive analysis. 5th Eds. New Delhi: Jaypee Brothers Medical Publishers; 2006.
Additional References	**1.** Green DP, Roberts SL. Kinesiology –Movement in the context of activity. 2nd eds. United States of America: Elsevier Mosby; 2005

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Assessments in Occupational Therapy-II (Theory & Practical)**
Course Code	**OCT2102 (Theory) / OCT2111 (Practical)**
Academic Year	Second year
Semester	III
Number of Credits	5 [Theory - 3; Practical -2]
Course Prerequisite	Anatomy (I & II), Physiology (I & II), Introduction to Occupational Therapy, Assessments in Occupational Therapy - I, Basic Competencies for Occupational Therapists- (I & II)
Course Synopsis	This course describes the assessments of client factors, performance skills, client's occupation and contexts in which occupations occur.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the evaluation of various client factors, performance skills, occupation, context and environment (C2)
CO2	Explain occupational performance analysis, including rationale, purpose and principles. (C2, P2, A3)
CO3	Explain the methods of evaluating occupational performance (C3, P2, A3)
CO4	Develop the skills for conducting occupational performance evaluation (C3, P3, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x					x		
CO2		x		x				
CO3	x	x						
CO4					x			

Course Content and Outcomes:

Contents	Competencies	Number of Hours
Unit 1: Assessment of client factors and performance skills: This section provide assessment of client factors and performance skills		
Assessment of Motor Functions	1. Explain the methods of evaluation. (C2) 2. Utilize the general principles of manual muscle testing and general procedures involve in muscle testing. (C3) 3. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Serratus Anterior, Rhomboids, Levator Scapulae and upper Trapezius. (C2 P3 A3) 4. Demonstrate the procedure of evaluating	39

Contents	Competencies	Number of Hours
	individual muscle strength for upper extremity: middle and lower Trapezius, Latissimus Dorsi (C2 P3 A3) 5. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Teres Major & Subscapularis, Supraspinatus, Shoulder external and internal rotators.(C2 P3 A3) 6. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Coracobrachialis, Deltoid, and Pectoralis major and minor. (C2 P3 A3) 7. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: extremity: Brachioradialis, Triceps Brachii and Anconeus, Biceps Brachii and Brachialis, Pronator Teres and Quadratus, Supinator (C2 P3 A3) 8. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Extensor Carpi Radialis and Ulnaris, Flexor Carpi Radialis and Ulnaris, (C2 P3 A3) 9. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Flexor Digitorum Superficialis and Profundus, Extensor Digitorum, Extensor Indicis and Digiti Minimi, Palmaris Longus and Brevis. (C2 P3 A3) 10. Demonstrate the procedure of evaluating individual muscle strength for upper extremity: Lumbricales and Interossei, Dorsal and Palmar Interossei, Thumb Muscles. (C2 P3 A3) 11. Demonstrate the procedure of evaluating individual muscle strength for lower extremity: Iliopsoas, Sartorius, Tensor Fasciae Latae Gluteus Maximus, Hip Adductors, Gluteus Medius (C2 P3 A3) 12. Demonstrate the procedure of evaluating individual muscle strength for lower extremity: Gluteus Minimus, Medial and Lateral Rotators of Hip Joint, Quadratus Lumborum. (C2 P3 A3) 13. Demonstrate the procedure of evaluating individual muscle strength for lower extremity: Quadriceps Femoris, Hamstrings and Gracilis., Popliteus (C2 P3 A3) 14. Demonstrate the procedure of evaluating individual muscle strength for lower extremity: Tibialis Anterior and Posterior, Peroneus Longus and Brevis, Gastrocnemius and Soleus. (C2 P3 A3)	

Contents	Competencies	Number of Hours
	15. Demonstrate the procedure of evaluating individual muscle strength for lower extremity: Toe Muscles. (C2 P3 A3) 16. Demonstrate the procedure of evaluating individual muscle strength for Posterolateral Neck Flexors, Anterolateral Neck Flexors, Anterior Neck Flexors (C2 P3 A3) 17. Demonstrate the procedure of evaluating individual muscle strength for Thoracic muscles. (C2 P3 A3) 18. Demonstrate the procedure of evaluating individual muscle strength for Rectus Abdominis (Upper and Lower), External and Internal Oblique, Quadratus Lumborum, Trunk Extensor muscles (C2 P3 A3) 19. Demonstrate the procedure of evaluating individual muscle strength for quite inspiration and forces expiration, Diaphragm (C2 P3 A3) 20. Demonstrate the procedure of evaluating individual muscle strength for eyeball movements, eyebrows and eye lids. (C2 P3 A3) 21. Demonstrate the procedure of evaluating individual muscle strength for facial muscles and masticator muscles. (C2 P3 A3) 22. Demonstrate the procedure of evaluating individual muscle strength for tongue muscles. (C2 P3 A3) 23. Explain the definition of hand functions and general hand function skills (C2) 24. Explain grip and pinch strength evaluation (C2) 25. Explain the procedure of Box and Block Test and Jebson Hand Function Test (C2) 26. Explain the procedure of Purdue Peg Board Test (C2) 27. Demonstrate the procedure of grip strength evaluation (C2 P3 A3) 28. Demonstrate the procedure of pinch strength evaluation (C2 P3 A3) 29. Demonstrate the procedure of Box and Block Test (C2 P3 A3) 30. Demonstrate the procedure of Jebson Hand Function Test (C2 P3 A3) 31. Demonstrate the procedure of Purdue Peg Board Test (C2 P3 A3) 32. Define edema and explain the methods to evaluate edema (C2) 33. Demonstrate the procedure of circumferential measurement and figure-of-eight hand measurement. (C2 P3 A3) 34. Demonstrate the procedure of using volumeter	

Contents	Competencies	Number of Hours
	(C2 P3 A3) 35. Explain the definition and evaluation of endurance (C2) 36. Demonstrate the procedure for endurance evaluation (C2 P3 A3) 37. Explain the definition and evaluation of coordination (C3) 38. Demonstrate the procedure for coordination-equilibrium tests (C2 P3 A3) 39. Demonstrate the procedure for non-coordination- equilibrium test (C2 P3 A3)	
Assessment of Motor Control	1. Explain the methods of muscle tone evaluation C2 2. Demonstrate the procedure for muscle tone evaluation (C2 P3 A3) 3. Explain the postural mechanism evaluation (C2) 4. Demonstrate the procedure for postural mechanism evaluation (C2 P3 A3) 5. Explain evaluation of trunk control (C2) 6. Demonstrate the procedure for trunk control evaluation (C2 P3 A3) 7. Explain the evaluation of cranial nerves (C2) 8. Demonstrate the procedure for cranial nerves evaluation (C2 P3 A3) 9. Explain the Brunnstrom's stages of voluntary control evaluation (C2) 10. Demonstrate the procedure for the assessment of voluntary motor control based on Brunnstrom's stages of recovery (C2 P3 A3)	16
Assessment of cognitive and perceptual functions	1. Explain the definition and components of cognitive abilities and capacities (C2) 2. Describe the process and methods of evaluating cognitive abilities and capabilities (C2) 3. Explain the tools for evaluating cognitive abilities and capabilities (C2) 4. Demonstrate the procedure for evaluating cognitive abilities and capacities –MMSE (C2 P3 A3) 5. Explain the definitions and components of visual perception evaluation (C2) 6. Demonstrate the procedure for vision evaluation (C2 P3 A3) 7. Explain the components of visual perception and praxis evaluation- LOTCA (C2) 8. Demonstrate the procedure of evaluating visual perception and praxis- LOTCA (C2 P2 A3)	12

Contents	Competencies	Number of Hours
Assessment of developmental milestones	1. Explain the evaluation of gross motor and fine motor milestones (C2) 2. Outline the evaluation of social, emotional and language skills (C2) 3. Name the developmental milestones (C3)	3
Assessment of psychosocial functions	1. Explain the common signs and symptoms seen in psychiatric conditions (C2) 2. Identify the common signs and symptoms seen in psychiatric conditions (C3)	2
Unit 2: Assessment of client's occupations: This section provide an overview of assessments of the areas of occupation (Activities of Daily Living, Work, Play & Leisure).		
Assessment of Activities of Daily Living	1. Explain the steps involved in selecting appropriate assessment for Activities of Daily Living (C2) 2. Explain the steps involved in implementing of activities of daily living evaluation (C2) 3. List the methods of activities of daily living evaluation (C3) 4. Demonstrate the procedure of conducting Functional Independent Measure (C2 P2 A3) 5. Demonstrate the procedure of conducting Canadian Occupational Performance Measure (C2 P2 A3)	5
Assessment of Work	1. Explain the process of conducting Job Analysis (C2) 2. Explain the Functional Capacity Evaluation (C2) 3. Explain the pre-placement assessment (C2) 4. Demonstrate the procedure of assessment using work sample (C2 P2 A3)	4
Assessment of Play and Leisure	1. Explain the definitions of play and leisure (C2) 2. Explain the guidelines and parameters for evaluation of play and leisure (C2) 3. Demonstrate the application of Knox pre-school play scale (C2 P2 A3) 4. Demonstrate the application of Interest checklist (C2 P2 A3)	4
Unit 3: Assessment of context and critiquing assessments: This unit provides an overview of assessment of context and its influences on occupational participation and also provides an overview about critiquing assessments.		
Assessment of context: Personal, Social, and Environment	1. Explain the methods of assessment of personal and social context (C2) 2. Explain the assessment of access to home (C2) 3. Explain the assessments of access to community and workplace (C2)	3
Critiquing assessments	1. Classify the type and structure of assessment (C2) 2. Explain the components of validity related to	3

Contents	Competencies	Number of Hours
	standardised assessments (C2) 3. Explain the concepts of reliability related to standardised assessments (C2	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	13	39
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	52	156
Revision	-	-
Assessment	-	-
Total	**91**	**273**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory and Practical)
Quiz	End Semester Exam (Theory and Practical)
Assignments/Presentations	-

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**		
Mid Semester / Sessional Examination 1	x	x	x	x		
Quiz / Viva	x		x	x		
Assignments/Presentations	x	x	x	x		
End Semester Exam	x	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Heidi MP, Winifred SK. Pedretti's Occupational Therapy: Practice skills for physical dysfunction. 7th ed. Missouri: Mosby, an imprint of Elsevier Inc.; 2013 2. Vining RM, Trombly CA. Occupational Therapy for Physical Dysfunction. 6th ed. Philadelphia: Wolters Kluwer Health Inc; 2008. 3. Kendall FP, McCreary EK, Provance PG, Rodgers MM, Romani WA. Muscles: Testing and Function with Posture and Pain. 5th ed.: Lippincott Williams & Wilkins;2005
Additional References	1. Schell BB, Gillen G, Scaffa ME, Cohn ES. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2013 2. Hislop HJ, Montgomery J. Daniels, and Worthingham's Muscle Testing: Techniques of Manual Examination. 8th ed. New Delhi: Elsevier; 2007. 3.Case-Smith, J., O'Brien J. Occupational therapy for children, 6th ed. Missouri: Mosby Elsevier; 2010 4. Illingworth RS. The normal child. 10th ed. Elsevier; 1997 5. Gutman SA, Schonfeld AB. Screening adult neurological populations: a step by step instruction manual. 2nd ed. AOTA Press; 2009. 6. Sethi S. Textbook of Psychiatry. Elsevier Health; 2008

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy Project**
Course Code	**OCT2151**
Academic Year	Second year
Semester	III
Number of Credits	2
Course Prerequisite	Nil
Course Synopsis	1. This is an experiential learning course for students to develop projects related to occupational therapy awareness or service 2. This course will enable students to develop team work and problem solving skills through practical real-life learning situations

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Identify and conceptualise the problem for which the project is being planned (C3, A3, P3)
CO2	Plan how they will solve the problem (C5, A2, P5)
CO3	Deliver the project (C5, A4, P6)
CO4	Evaluate the outcomes of the project (C5, A3, P5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x					x		
CO2			x					x
CO3			x		x			
CO4				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: In the first unit, the students will work on identifying the issues and how they can problem solve for those		
Planning the project	Conceptualise project (C3, A3, P3)	24
	Develop project (C5, A2, P5)	
Unit 2: In this unit, the students will work on planning for and delivering the project in the community		
Preparation and Delivery of Project	Prepare for project (C5, A2, P5)	20
	Deliver the project (A4, P6)	
Unit 3: In this unit, the students will work on reflecting on their learning from this project		
Reflecting on the project	Evaluate the project and reflect on how it went (C5, A3, P5)	8

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	52	104
Revision	-	-
Assessment	-	-
Total	**52**	**104**

Assessment Methods:	
Formative:	**Summative:**
Assignments/Presentations	**--**
Practical Log Book/ Record Book	**--**
WPBA	--
Descriptive essays	--

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Assignments/Presentations	x	x	x			
Practical Log Book/ Record Book		x	x			
Any others: WPBA			x	x		
Descriptive Essays (Reflective essay)				x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	Nil (These will depend on the project the students choose)
Additional References	

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork-II**
Course Code	**OCT2131**
Academic Year	Second year
Semester	III
Number of Credits	2
Course Prerequisite	Assessments in Occupational Therapy – I, Basic Competencies for Occupational Therapists- (I & II), Clinical Fieldwork-I
Course Synopsis	1. It provides an opportunity for students to practice basic occupational therapy evaluation and develop reasoning skills. 2. It also provides an opportunity for students to practice documentation of evaluation and report writing.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Demonstrate effective interviewing skills (C3, P4, A2)
CO2	Demonstrate effective basic evaluation skills (C3, P4, A2)
CO3	Demonstrate skills of documenting the basic evaluation (C2, P3)
CO4	Demonstrate professional attributes suitable for clinical settings (C3, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x				x			
CO2	x				x			
CO3		x						
CO4				x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Practice of basic occupational therapy evaluation skills in the areas of Neuro-rehabilitation, Musculoskeletal rehabilitation, Pediatric Habilitation and Mental Health and Psycho-social rehabilitation*.		
	1. Develop effective occupational profile (C3, P4, A2)	Clinical Discussions (12 hours) Pre-clinical practice (66 hours)
	2. Demonstrate the skills required to identify occupational dysfunctions (C3, A2, P4)	
	3. Outline occupational dysfunctions based on assessment using OTPF level II checklist in pre-clinical settings (C2, P4)	
	4. Demonstrate documentation skills of basic evaluation (C2, P2)	
	5. Build professional attributes required for clinical settings (initiation, time management and communication skills) (C3, A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):						
Learning Strategies	**Contact Hours**		**Student Learning Time (SLT)**			
Lecture	-		-			
Seminar	-		-			
Small group discussion (SGD)	16		32			
Self-directed learning (SDL)	42		84			
Problem Based Learning (PBL)	-		-			
Case Based Learning (CBL)	20		40			
Clinic	-		-			
Practical	-		-			
Revision	-		-			
Assessment	-		-			
Total	**78**		**156**			
Assessment Methods:						
Formative:	**Summative:**					
Viva	End of Posting Examination					
Assignments/Presentations	**-**					
Clinical/Practical Log Book	-					
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**		
Viva	x					
Assignments/Presentations	x	x	x			
Clinical/Practical Log Book				x		
End of Posting Examination	x	x	x	x		
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48.					
	2. Clinical Format					

SEMESTER - IV

COURSE CODE	:	COURSE TITLE
PHC2203	:	Pharmacology
CPY2201	:	Clinical Psychology
OCT2201	:	Development Across The Lifespan
OCT2202	:	Activities and Occupations
OCT2211	:	Activities and Occupations (Practical)
OCT2231	:	Clinical Fieldwork- III

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Pharmacology**
Course Code	**PHC2203**
Academic Year	Second Year
Semester	IV
Number of Credits	3
Course Prerequisite	Students should have basic knowledge of Anatomy, Physiology, Biochemistry, Microbiology and Pathology
Course Synopsis	The course briefly addresses the classes of drugs acting on various systems of human body. This module will be delivered through lectures. Theory examination will be used to assess the students' transferable skills and learning outcomes. This module helps the students to understand the kinetics, dynamics and therapeutics of drugs that are relevant to allied health practice. Emphasis is laid on drugs that are commonly used by allied health practioners. This module provides the background for decision making and treatment based on basic knowledge of drugs.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain indications, rationale, pharmacological actions, pharmacokinetic features, adverse effects, contraindications and drug interactions of commonly used medications in allied health practice (C1)
CO2	Describe mechanism of action, uses, adverse effects, contraindications and drug interactions of clinically important drugs that are used in allied health practice which may directly or indirectly influence management of health and diseases by allied heath practioners (C1)
CO3	Apply fundamental pharmacology knowledge in allied health sciences (C2)
CO4	Use pharmacology knowledge in decision making of patient/client management. (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
General Pharmacology	**A. Introduction :** 1. Define the following terms: pharmacology, pharmacokinetics, pharmacodynamics,	7

Content	Competencies	Number of Hours
	pharmacotherapeutics, clinical pharmacology and toxicology (C1) 2. Define drug with examples. (C1) 3. Describe the following with examples: chemical name, non- proprietary/generic name and proprietary (brand) name of a drug. (C2) 4. List various sources of drug information. (C1) 5. List different sources of drugs with examples. (C1) 6. Explain different parts of a prescription. (C2) 7. Describe the various standard abbreviations used in prescription. (C1) **B. Routes of drug administration:** 1. Explain the advantages and disadvantages of the following routes of drug administration with examples of drugs administered by these routes: oral, sublingual, subcutaneous, intramuscular, intravenous, intradermal, topical, transdermal, inhalational and rectal. (C2) **C. Pharmacokinetics:** 1. Describe drug transport mechanisms. (C2) 2. Explain the factors affecting drug absorption. (C2) 3. Define bioavailability. (C1) 4. Explain first pass metabolism with examples of drugs having high first pass metabolism. (C2) 5. Define volume of distribution. (C1) 6. Explain the factors affecting volume of distribution. (C2) 7. Define biotransformation. (C1) 8. List the organs involved in biotransformation. (C1) 9. List the types of biotransformation reactions. (C1) 10. List different routes of drug excretion. (C1) 11. Define the following terms: plasma half-life, first order kinetics and zero order kinetics (C1) **D. Pharmacodynamics:** 1. Describe the different types of non-receptor mediated mechanisms of drug action with examples. (C2) 2. List different types of receptors with examples. (C1) 3. Define the following terms: affinity, intrinsic activity, efficacy, potency, agonist and antagonist. (C1) 4. Define the following terms with examples: competitive antagonist and non-competitive antagonist. (C1) 5. Explain synergism with an example. (C2) 6. Explain the following factors modifying drug action with examples:age, genetics, psychological states, pathological states, presence of other drugs and tolerance (C2) **E. Drug toxicity and safety:** 1. Define therapeutic index. (C1) 2. Define adverse drug reactions. (C1) 3.Describe the following terms with examples: predictable adverse drug reactions, unpredictable	

Content	Competencies	Number of Hours
	adverse drug reactions, side effects, toxic effects, idiosyncrasy,hypersensitivity, teratogenicity, iatrogenic disease, photosensitivity, dependence (C2)	
Unit 2		
Autonomic nervous system including skeletal muscle relaxants	**A. Cholinergic drugs:** 1. Name the parasympathetic neurotransmitter. (C1) 2. List the types of different cholinergic receptors. (C1) 3. Name the locations of different cholinergic receptors. (C1) 4. Describe the responses mediated through different cholinergic receptors at various sites. (C2) 5. Tell the classification of cholinergic drugs based on their mechanism of action. (C1) 6. Describe the mechanism of action of anticholinesterases. (C2) 7. List the therapeutic uses of anticholinesterases. (C1) **8.** List the adverse effects of anticholinesterases. (C1) **B. Anticholinergic drugs:** 1. Tell the classification of anticholinergic drugs based on their source. (C1) 2. Describe the pharmacological actions of atropine. (C2) 3. List the therapeutic uses of atropine and its substitutes. (C1) **4.** List the adverse effects of anticholinergic drugs. (C1) **C. Neuromuscular blocking drugs:** 1. Tell the classification of skeletal muscle relaxants based on their mechanism of action. (C1) 2. List the uses of the following: centrally acting skeletal muscle relaxants, peripherally acting skeletal muscle relaxants. (C1) 3. List the adverse effects of the following: centrally acting skeletal muscle relaxants, peripherally acting skeletal muscle relaxants. (C1) **D. Adrenergic drugs:** 1. Name the sympathetic neurotransmitters. (C1) 2. List the types of different adrenergic receptors. (C1) 3. Name the locations of different adrenergic receptors. (C1) 4. Describe the responses mediated through different adrenergic receptors at various sites. (C2) 5. Describe the effects of adrenaline on: CVS, smooth muscle, eye, metabolism (C2) 6. List commonly used adrenergic drugs. (C1) **7.** List the common therapeutic uses of adrenergic drugs. (C1) **E. Adrenergic receptor antagonists:** 1. Tell the classification of adrenergic receptor antagonists based on their receptor selectivity. (C1) 2. Describe the pharmacological actions of propranolol on: CVS, respiratory system and eye. (C2)	7

Content	Competencies	Number of Hours
	3. List the important uses of α-blockers. (C1) 4. List the important uses of β-blockers. (C1) 5. List the adverse effects of β-blockers. (C1)	
Unit 3		
Central nervous system	**A. General anaesthetics (GAs) :** 1. Define general anaesthetics. (C1) 2. Tell the classification of general anaesthetics based on their route of administration. (C1) 3. List indications of general anaesthetics. (C1) 4. List the complications of general anaesthesia. (C1) 5. Describe preanaesthetic medication. (C1) 6. List the drugs used in preanaesthetic medication. (C1) **B. Local anaesthetics (LAs) :** 1. Define local anaesthetics. (C1) 2. Explain the mechanism of action of LAs. (C2) 3. List the LAs. (C1) 4. List the indications of LAs. (C1) **5.** List the different techniques of local anaesthetics. (C1) **C. Sedative & hypnotics** : 1. Define the following terms with examples: sedative and hypnotics. (C1) 2. List the benzodiazepines. (C1) 3. List the therapeutic uses of benzodiazepines. (C1) **4.** List the adverse effects of benzodiazepines. (C1) **D. Opioids:** 1. List the commonly used opioids. (C1) 2. Explain the pharmacological actions of morphine. (C2) 3. List the uses of morphine. (C1) 4. List the adverse effects of morphine. (C1) 5. List the contraindications of morphine. (C1) 6. Mention the antidote used for the opioid poisoning. (C1) **E. NSAIDs :** 1. Tell the classification of NSAIDs based on their selectivity to COX. (C1) 2. Explain the mechanism of action of NSAIDs. (C2) 3. Explain the pharmacological actions of aspirin. (C2) 4. List the uses of aspirin. (C1) 5. List the adverse effects of aspirin. (C1) 6. List the contraindications of aspirin. (C1) 7. Explain the advantages and disadvantages of selective COX-2 inhibitors over aspirin. (C2) 8. Explain the mechanism of action of paracetamol. (C2) 9. List the uses of paracetamol. (C1) 10. Mention the differences between aspirin and paracetamol. (C2) **F. Drug treatment of rheumatoid arthritis (RA):** 1. List NSAIDs, DMARDs and steroids used in the treatment of RA. (C1)	9

Content	Competencies	Number of Hours
	2. Explain the mechanism of action of methotrexate. (C2) 3. List the adverse effects of methotrexate. (C1) **G. Drug treatment of gout:** 1. List the drugs used for acute and chronic gout. (C1) 2. Explain the mechanism of action of the following: Allopurinol, probenecid, sulfinpyrazone (C2) 3. List the adverse effects of the following: Allopurinol, probenecid, sulfinpyrazone (C1) **H. Psychopharmacology :** 1. List the antipsychotics. (C1) 2. Explain the mechanism of action of chlorpromazine. (C2) 3. List the uses of chlorpromazine. (C1) 4. List the adverse effects of chlorpromazine. (C1) **I. Parkinsonism :** 1. List antiparkinsonian drugs. (C1) 2. List the adverse effects of levodopa. (C1) 3. Explain the pharmacological basis for combining levodopa with carbidopa. (C2) **J. Alcohol :** 1. Explain the management of methanol poisoning. (C2) **K. Antiepileptic drugs :** 1. List the drugs used in various types of seizures. (C1) 2. List the adverse effects of phenytoin. (C1)	
Unit 4		
GIT	**A. Drugs for peptic ulcer :** 1. Tell the classification of drugs used in peptic ulcer based on their mechanism of action. (C1) 2. Explain the mechanism of action of the following: proton pump inhibitors (PPIs), H_2 blockers, antacids and ulcer protectives. (C2) 3. List the therapeutic uses of the following: proton pump inhibitors (PPIs), H_2 blockers, antacids and ulcer protectives. (C1) 4. List the adverse effects of the following: proton pump inhibitors (PPIs), H_2 blockers, antacids and ulcer protectives. (C1) **B. Antiemetics:** 1. List various classes of antiemetics with examples. (C1) 2. List the therapeutic uses of the following: prokinetics, 5-HT_3 antagonists, anticholinergics and H_1 antihitaminics. (C1) 3. List the adverse effects of the following: prokinetics, 5-HT_3 antagonists, anticholinergics and H_1 antihitaminics. (C1) **C. Laxatives and antidiarrhoeals** : 1. List various classes of laxatives with examples. (C1) 2. List the therapeutic uses of laxatives. (C1) 3. List the composition of WHO-ORS. (C1)	2

Content	Competencies	Number of Hours
	4. List the antimotility and antisecretory agents used in diarrhea. (C1)	
Unit 5		
Blood	**A. Haematinics :** 1. List oral and parenteral iron preparations. (C1) 2. List the therapeutic and prophylactic uses of oral and parenteral iron preparations. (C1) 3. List the adverse effects of oral and parenteral iron preparations. (C1) 4. List various preparations of vitamin B_{12} and folic acid. (C1) 5. Mention the therapeutic uses of the following: vitamin B_{12} and folic acid. (C1) **B. Anticoagulants :** 1. Tell the classification of anticoagulants based on their routes of administration. (C1) 2. Explain the mechanism of action of the following: heparin and warfarin. (C2) 3. List the therapeutic uses of the following: heparin and warfarin. (C1) 4. List the adverse effects of the following: heparin and warfarin. (C1) **C. Antiplatelet drugs :** 1. List antiplatelet drugs. (C1) 2. Explain the antiplatelet action of the aspirin. (C2) 3. List the therapeutic uses of antiplatelet drugs. (C1) **D. Fibrinolytics and antifibrinolytics**: 1. List fibrinolytics and antifibrinolytics. (C1) 2. List the therapeutic uses of fibrinolytics and antifibrinoytics. (C1)	3
Unit 6		
Cardiovascular system	**A. Diuretics:** 1. Define the term diuretics. (C1) 2. Tell the classification of diuretics based on their mechanism of action. (C1) 3. Explain the mechanism of action of following: loop diuretics, thiazides, potassium sparing diuretics and carbonic anhydrase inhibitors. (C2) 4. List the important therapeutic uses and adverse effects of the following: loop diuretics, thiazides, osmotic diuretics and potassium sparing diuretics. (C1) **B. Drugs used in congestive heart failure (CHF):** 1. Tell the classification of drugs used in the treatment of congestive heart failure based on their mechanism of action. (C1) 2. Explain the mechanism of action of cardiac glycosides. (C2) **C. Antihypertensives:** 1. Tell the classification of antihypertensive agents	5

Content	Competencies	Number of Hours
	based on mechanism of action (C1) 2. Explain the antihypertensive action of the following: ACEIs/ARBs, calcium channel blockers, thiazides, beta blockers (C2) 3. List the uses of the following: ACEIs and calcium channel blockers. (C1) 4. List the adverse effects of the following: ACEIs and calcium channel blockers. (C1) **D. Antianginal drugs**: 1. List the drugs used for acute attack and chronic prophylaxis of angina. (C1) 2. Explain the mechanism of action of nitrates. (C2) 3. List the therapeutic uses of nitrates (C1) 4. List the adverse effects of nitrates (C1) **E. Hypolipidemics:** 1. Tell the classification of hypolipidemics based on their mechanism of action. (C2) 2. Explain the mechanism of action of the following: statins and fibrates. (C2) 3. List the uses and adverse effects of the following: statins and fibrates. (C1)	
Unit 7		
Respiratory System	**A. Pharmacotherapy of bronchial asthma :** 1. Tell the classification of drugs used in the treatment of bronchial asthma based on their mechanism of action. (C1) 2. Explain the antiasthmatic action of the following: β_2-agonists, anticholinergics, mast cell stabilizers and inhaled glucocorticoids. (C2) 3. List the adverse effects of the following: β_2 agonists, anticholinergics, mast cell stabilizers and inhaled glucocorticoids. (C1) **B. Pharmacotherapy of cough :** 1. List drugs used in dry and productive cough. (C1) 2. Define the following terms with examples: mucolytics, expectorants, antitussives (C1) **C. Antihistaminics :** 1. List first generation and second generation antihistaminics. (C1) 2. List the uses of H_1 antihistaminics. (C1) 3. List the adverse effects of H_1 antihistaminics. (C1) 4. Describe the advantages of second generation antihistaminics over the first generation antihistaminics. (C2)	3
Unit 8		
Chemotherapy	**A. General aspects:** 1. Define the following terminologies with examples: antimicrobial agents (AMAs), antibiotic, bacteriostatic, bactericidal, chemoprophylaxis and suprainfection. (C1)	7

Content	Competencies	Number of Hours
	2. List the problems that arise from using AMAs with examples. (C1) **B. Beta lactam antibiotics:** 1. List the groups of beta lactams with examples. (C1) 2. Explain the mechanism of action of beta lactam antibiotics. (C2) 3. Tell the classification of penicillins with examples .(C1) 4. List the uses of penicillins (C1) 5. List the adverse effects of penicillins (C1) **C. Cotrimoxazole:** 1. Explain the mechanism of action of cotrimoxazole (C2) 2. List the uses of cotrimoxazole (C1) 3. List the adverse effects of cotrimoxazole (C1) **D. Macrolides :** 1. List macrolides (C1) 2. List the uses of macrolides (C1) 3. List the adverse effects of macrolides (C1) **E. Fluoroquinolones:** 1. List commonly used fluoroquinolones (C1) 2. List the uses of fluoroquinolones (C1) 3. List the adverse effects of fluoroquinolones (C1) **F. Antifungal agents:** 1. List azole anifungals. (C1) 2. List the uses of azoles. (C1) 3. List the adverse effects of azoles. (C1) **G. Antiviral drugs :** 1. List classes of anti-retroviral drugs (anti-HIV) with examples. (C1) 2. List the commonly used antiviral drugs with examples. (C1) 3. Explain the mechanism of action of acyclovir. (C1) 4. List the uses of acyclovir. (C1) 5. List the adverse effects of acyclovir. (C1) **H. Antitubercular drugs :** 1. Tell the classification of antitubercular drugs with examples. (C1) 2. Explain the mechanism of action of the following: isoniazid, rifampicin, pyrazinamide, ethambutol (C2) 3. List the adverse effects of the following: isoniazid, rifampicin, pyrazinamide, ethambutol. (C1) 4. Explain the pharmacological basis for short course chemotherapy. (C2) 5. List the drugs used for short course chemotherapy of pulmonary TB. (C1) **I. Antileprotic drugs :** 1. List antileprotic drugs. (C1) 2. List the drugs used for multidrug therapy (MDT) for paucibacillary and multibacillary leprosy. (C1)	

Content	Competencies	Number of Hours
	J. Aminoglycosides: 1. List aminoglycosides. (C1) 2. Mention the common features of aminoglycosides. (C1) 3. List the uses of aminoglycosides. (C1) 4. List the adverse effects of aminoglycosides. (C1) **K. Antiamoebic drugs**: 1. List antiamoebic drugs. (C1) 2. List the uses of nitroimidazoles. (C1) 3. List the adverse effects of nitroimidazoles. (C1) **L. Anthelmintics:** 1. List anthelmintic drugs. (C1) 2. List the uses of the following: albendazole, mebendazole and DEC. (C1) 3. List the adverse effects of the following: albendazole, mebendazole and DEC. (C1) **M. Anticancer drugs**: 1. Give examples for anticancer drugs. (C1) 2. List the general toxicities of anticancer agents. (C1) **N. Antimalarial drugs**: 1. List antimalarial drugs. (C1) 2. List the uses of chloroquine. (C1) 3. List the adverse effects of chloroquine. (C1)	
Unit 9		
Hormones and related drugs	**A. Glucocorticoids**: 1. List glucocorticoids based on their duration of action. (C1) 2. Explain the anti-inflammatory and immunosuppressant actions of glucocorticoids. (C2) 3. List the therapeutic uses of glucocorticoids. (C1) 4. List the adverse effects of glucocorticoids. (C1) **B. Antidiabetic drugs:** 1. List insulin preparations based on their duration of action. (C1) 2. List the adverse effects of insulin. (C1) 3. Tell the classification of oral antidiabetic drugs based on their chemistry. (C1) 4. List the adverse effects of various classes of oral antidiabetic drugs. (C1) **C.Thyroid and anti-thyroid drugs:** 1. List the thyroid hormone preparations. (C1) 2. List the uses of thyroid hormone preparations. (C1) 3. List the antithyroid drugs acting at different steps of thyroid hormone synthesis. (C1) 4. List the uses of antithyroid drugs. (C1)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT):							
Learning Strategies		**Contact Hours**			**Student Learning Time (SLT)**		
Lecture		45			135		
Total		**45**			**135**		
Assessment Methods:							
Formative:	**Summative:**						
Unit Test	Sessional I & Sessional II Exam (Theory)						
Quiz	End Semester Exam (Theory)						
Mapping of Assessment with COs:							
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**		
Mid Semester / Sessional Examination 1		x	x	x	x		
Sessional Examination 2		x	x	x	x		
Quiz		x	x				
Unit Test		x	x	x	x		
End Semester Exam		x	x	x	x		
Feedback Process	Mid-Semester Feedback						
	End-Semester Feedback						
Main Reference:	1. Tripathi KD. Essentials of Medical Pharmacology, 8th edition, India: Jaypee Brothers Medical Publishers (P) Ltd; 2018						
	2. Shanbag T & Shenoy S. Pharmacology for medical graduates,4th edition, Elsevier Publications; 2019						
Additional References	**1.** Sharma HL & Sharma KK. Principles of Pharmacology, 3rd edition. India:Paras Medical Publishers; 2017						
	2. Whalen K. Lippincott Illustrated Reviews: Pharmacology, 7th edition. Wolters Kluwer; 2018						

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Psychology**
Course Code	**CPY2201**
Academic Year	Second year
Semester	IV
Number of Credits	03
Course Prerequisite	Nil
Course Synopsis	1. Orients and familiarises students towards the basic psychological processes 2. Enables the students to understand how psychological principles are applied in day to day life. 3. Introduce the students to the field of clinical psychology 4. Orients and familiarise them towards various psychological disorders and psychological interventions.

Course Outcomes (Cos): **At the end of the course student shall be able to:**	
CO1	Explain the basic concepts in Psychology. (C2)
CO2	Explain how the processes of perception , learning, memory , thinking and intelligence contributes to the uniqueness of the individual (C2)
CO3	Outline the role of motivation , emotion and personality in shaping human behaviour (C2)
CO4	Develop an understanding of normality and abnormality in clinical psychology (C3)
CO5	Outline the various signs and symptoms of psychiatric disorders (C2)
CO6	Explain the various psychological interventions for various mental health conditions (C2)

Mapping of Course Outcomes (Cos) to Program Outcomes (POs):

Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2						x	x	
CO3						x	x	
CO4	x							
CO5	x					x		
CO6	x					x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Psychology	1. Define Psychology(C1) 2. Outline the evolution of Psychology as a scientific	3

Content	Competencies	Number of Hours
	discipline (C2) 3. Summarise the modern schools of Psychology 4. Enumerate the different branches of Psychology(C1) 5. What is Introspection? List the merits and demerits of introspection (C1) 6. Explain the importance of Experimental method in the field of Psychology(C2) 7. Explain the observation method in Psychology (C2)	
Unit 2:		
Perception	1. Define Perception (C1) 2. Describe the various principles of Perceptual groupings (C2) 3. Illustrate the Gestalt laws of perception (C2) 4. Define Perceptual constancy and explain its types(C2) 5. Explain Monocular and Binocular cues in Perception (C2) 7. Explain types of motion perception (C2)	3
Unit 3:		
Learning	1. Define Learning (C1) 2. Explain Pavlov's Classical Conditioning(C2) 3. Summarize the various processes of Classical Conditioning with examples (C2) 4. Explain the applications of Classical Conditioning(C2) 5. What is Operant Conditioning (C1) 6. Compare the types of reinforcement and Punishment(C2) 7. Explain with the examples the schedules of Reinforcement (C2) 8. Explain the applications of Operant Conditioning(C2) 8. Explain observation learning with its classic experiment (C2) 9. Illustrate the processes in observation learning (C2)	3
Unit 4:		
Memory	1. Define Memory (C1) 2. List the processes that underlie memory (C1) 3. Explain the characteristics of different types of memory(C2) (sensory, STM, LTM) 4. Summarise the different theories of forgetting (C2) (Decay, motivated forgetting, interference, cue dependant displacement) 5. List the various strategies to improve memory (C1)	3

Content	Competencies	Number of Hours
Unit-5:		
Thinking & Problem solving	1. Define thinking (C1) 2. How thoughts are represented (C1) 3. Define concepts(C1) 4. Compare the different types of concept (C2) 5. Enumerate the steps in creative thinking (C1) 6. List the steps involved in problem solving (C1) 7. What are the different strategies used to solve problems (C1) (Trial & error, Heuristics, Algorithm)	2
Unit-6:		
Intelligence	1. Define Intelligence (C1) 2. Summarise the various theories of Intelligence (C2) (Two factor, Crystallised and Fluid, Multiple intelligence) 3. List the different types of Intelligence tests (C1) 4. Define Emotional Intelligence (C1) 5. What are the different components of emotional intelligence? (C1)	3
Unit-7:		
Motivation & Conflict	1. Define Motivation (C1) 2. Summarize the biological theories of Motivation (C2) (Drive reduction theory, Optimal arousal theory, Instinct theory) 3. Explain the Psychological theories of Motivation (C2) (Maslow's hierarchy theory) 4. Define Conflict (C1) 5. Explain the types of Conflict with examples (C2) (Approach- Approach conflict, Avoidance-Avoidance conflict, Approach- Avoidance conflict and Double Approach- Avoidance conflict) 6. Summarise the different ways to handle conflict (C2)(Task and defense oriented)	3
Unit-8:		
Emotion	1. Define Emotion (C1) 2. List the characteristics of Emotion (C1) 3. Explain the various theories of Emotion (C2)(James-Lange, Cannon- Bard, Schatcher- Singer)	2
Unit-9:		
Personality	1. Define Personality(C1) 2. Explain the Psychodynamic theory of Personality (C2) 3. Explain the trait approach towards Personality (C2) 4. Summarize Rogers' humanistic approach in understanding Personality (C2) 5. Enumerate the various assessment methods in studying Personality (C1)	4

Content	Competencies	Number of Hours
Unit-10:		
Introduction to Clinical Psychology	1. Define clinical Psychology (C1) 2. Outline the scope of clinical psychology (C2) 3. Explain the methods in clinical psychology (C2) (case history, observation, survey and interview) 4. Explain the concept of normality and abnormality (C2) 5. Identify the differences between various models of mental disorders (C3) (biological, psychodynamic, learning, cognitive, social cultural)	2
Unit-11:		
Psychiatric disorders: an overview	1. Compare mental disorders based on DSM V & ICD 10 classificatory systems. (C2) 2. Compare DSM V & ICD 10 classificatory systems. (C2) 3. Outline various psychotic disorders (C2) (Schizophrenia and delusional disorders) 4. Summarise mood disorders (C2) (Depression, Mania and Bipolar disorders) 5. Summarise various substance use Disorder (C2) (Intoxication, Abuse, harmful use and Dependence) 6. Outline the various psychoactive substances and it corresponding symptoms (C2) 7. Outline the various anxiety disorders (C2) (GAD, SAD, OCD, Phobias and Panic disorder) 8. Identify the difference between fear and anxiety (C3) 9. Outline the various personality disorders based on ICD 10 (C2) 10. Outline the various child hood behavioural disorders (C2) (ADHD, CD, ODD, MR, Autism, SLD)	7
Unit-12:		
An overview of psychological interventions	1. Define counselling (C1) 2. Outline various types of counselling (C2) 3. Explain the theoretical framework of behaviour therapy (C2) 4. Explain the various behaviour therapy techniques (C2) (Shaping, chaining, time-out, token economy, desensitisation and aversive techniques) 5. What is psychodynamic psychotherapy (C1) 6. Outline the various concepts in psychodynamic psychotherapy (C2) (Free association, Dream analysis, transference and counter transference) 7. Outline various principles of supportive therapy (C2)	4

Content	Competencies	Number of Hours
	8. Define crisis (C1) 9. List the steps in crisis intervention (C1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Nil	Mid Semester/Sessional Exam (Theory)
Nil	End semester exam (Theory)

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester/Sessional examination	x	x				
End semester examination	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Baron RA., Byrne D & Mankowitz B H. Psychology: Understanding behaviour. Philadelphia: W.B. Saunders Co; 1977 2. Feldman RS. Understanding psychology. New York: McGraw-Hill; 1993. 3. Korchin SJ. Modern Clinical Psychology. New Delhi: CBS Publishers & Distributors; 2004 4. Ahuja, N. A Short Textbook Of Psychiatry. New Delhi: Jaypee Brothers Medical Publishers; 2011.
Additional References	1. Myers DG. Exploring psychology. New York, NY: Worth Publishers; 2005.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Development Across the Life Span**
Course Code	**OCT2201**
Academic Year	Second Year
Semester	IV
Number of Credits	3
Course Prerequisite	Introduction to Occupational Therapy
Course Synopsis	1. It introduces the students to different theories pertaining to the human development 2. It further discusses the development of occupations throughout the lifespan 3. It also explains the specific areas of development such as sensory development, motor development etc.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Outline different theories of human development (C2)
CO2	Explain the specific development of performance skills and occupations across the life span (C2)
CO3	Explain the development of occupations, across the lifespan and apply theories of development (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x							
CO2	x	x						
CO3		x						

Course Content and Outcomes:

Content	**Competencies**	**Number of hours**
Unit I: Overview of theoretical aspect of development		
Theories of development	1. Explain the general principles of human development (C2) 2. Outline the various factors that influence growth and development, and explain the basic principles of stress and maturation (C2) 3. Describe the concept of ages and stage theories of human development (C2) 4. Explain Gesell and Erikson's theories of development (C2) 5. Explain Freud and Piaget theories of development (C2) 6. Explain the Kohlberg and Levinson theories of development (C2) 7. Apply the concept of plasticity and resilience in human development (C3)	15

Content	Competencies	Number of hours
	8. Explain newer theories of development: Vygotsky theory ,life span theory, Bronfrenbrenner's socio-ecological theory and Balte's theory (C2) 9. Apply the ages and stages questionnaire using simulated case examples (C3) 10. Explain occupational therapy development theories: Model of Human Occupation (MOHO) (C2) 11. Apply MOHO for a simulated case example (C3) 12. Explain the Davis & Polatajko's Interactional Model of Occupational Development (IMOD); Models of Processes Transforming Occupation (C2) 13. Apply developmental theories from an occupational therapy perspective for a simulated case example (C3)	
Unit II: Development of specific performance skills		
Gross and fine motor development	1. Explain gross motor development including variations and advances in gross motor development (C2) 2. Explain factors affecting gross motor development (C2) 3. Outline the components of hand functions and factors influencing hand functions (C2) 4. Explain the development of hand functions (grasp, reach and release) (C2) 5. Explain the development of hand functions (bilateral hand function and in-hand manipulation) (C2)	14
Sensory development	1.Explain sensory development from the prenatal period to one year of life (C2) 2. Explain sensory development from first year of life to the seventh year of life (C2)	
Emotional development	1. Describe the concept of Temperament (C2) 2. Apply the theories of emotional development (psychoanalytical and psychosocial) for simulated case example (C3)	
Cognitive development	1. Describe different cognitive theories of human development C2) 2. Apply Jean Piaget's stages of cognitive development using simulated case examples (C3)	
Social development	1. Explain social skills development in infancy, early childhood, and middle childhood (C2) 2. Apply concepts of development of social skills in infancy, early childhood, and middle childhood using simulated case examples(C2)	
Cultural development	1. Describe cultural influences on development in infancy, early childhood and middle childhood (C2)	
Unit III: Occupational development throughout life		
General concept of occupational development	1. Describe activities and occupations (what and why people do what they do) and explain types of occupations in terms of time (C2)	10

Content	Competencies	Number of hours
	2.Describe perspectives relating occupation and human development (C2)	
Childhood occupation: Play	1.Explain the role of play in child development (C2) 2.Explain the different theories of play (C2) 3Describe types of play (classification) (C2) 4.Apply the classification of play using simulated case examples (C3)	
Adulthood occupation: Work and Leisure	1.Describe the theoretical concept of work and leisure as an occupation, and the work and leisure relationship (C2) 2.Apply the concepts that provide empirical support of work-leisure relationship using case based examples (C3)	
Occupation transitions: work to retirement	1.Describe the characteristics of occupational transitions, positive and negative meanings of work and attitudes toward retirement (C2) 2.Summarize common changes in the rhythm of life during retirement and engagement in occupation after retirement (C3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	13	39
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Class Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	**--**

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x				
Quiz / Viva			x			
Assignments/Presentations		x				
End Semester Exam	x	x	x			

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Dsouza SA, Galvaan R & Ramugondo E (Editors). Concepts in occupational therapy: understanding southern perspectives. Manipal University Press; 2017 2. Case-Smith J & O'Brien J C, editors. Occupational therapy for children, 6th edition, Missouri: Mosby Elsevier; 2010 3. Christiansen C, Townsend E. Introduction to occupation: The Art of Science and Living. 2nd ed. Upper Saddle River, N.J.: Pearson New International Edition; 2010.
Additional References	1. Cole MB & Tufano R, editors. Applied theories in occupational therapy, a practical approach. New Jersey:Slack Incorporated, 2008. 2. Hopkins HL, Smith. HD, editors. Willard and Spackman's occupational therapy.8th ed .Philadelphia: J B. Lippincott 1993 3. Pratt PN, Allen A S, editors. Occupational therapy for children, 2nd ed, St. Louis, Missouri: Mosby, 1989 4. Illingworth R, Nair M, Russell P. Illingworth's the development of the infant and young child. 10th ed. New Delhi [India]: Elsevier; 2013. 5. Curtin M, Molineux M & Mellson JS, editors. Occupational therapy and physical dysfunction enabling occupation. 6th ed. Edinburgh: Churchill Livingstone Elsevier; 2010.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Activities and Occupations (Theory & Practical)**
Course Code	**OCT2202 (Theory)/ OCT2211 (Practical)**
Academic Year	Second Year
Semester	IV
Number of Credits	5 [Theory - 3; Practical - 2]
Course Prerequisite	Anatomy I & II, Introduction to OT, Assessments in OT-I & II, Basic Competencies for Occupational Therapists-I & II
Course Synopsis	1. This course describes the central concept of occupation and introduces the field of occupational science. 2. It also discusses the characteristic properties of activities and the role of activities in occupational therapy 3. It includes the essential skill of activity analysis necessary for activity selection in therapy 4. It also covers the theoretical background underlying occupational therapy interventions and reasoning required for choosing appropriate models for practice.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the importance of activities and occupations in occupational therapy practice. (C2)
CO2	Analyse basic activities to gain a better understanding of use of activities in therapy (C4, P4, A3)
CO3	Apply the skill of theory focused and occupation based activity analysis (C4, P4, A3)
CO4	Outline the application of different models for treatment planning in occupational therapy practice (C4, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x						
CO3		x				x		
CO4	x					x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Introduction to activities and occupations in Occupational Therapy		
Introduction to human occupation	1. Explain the concept of occupation in occupational therapy (C2) 2. Explain the relation between context and occupation (C2) 3. Outline how structuring of daily occupations define individual lives (C2)	15

Content	Competencies	Number of Hours
	4. Explain the types of occupations, occupational roles and life projects (C2) 5. Explain the factors that influence what people do (C2) 6. Summarize the context of doing occupations (C2)	
Occupational science	1. Explain the observable and phenomenological aspects of occupations (C2) 2. Explain occupational science as an applied science (C2)	
Occupation and health	1. Explain the physical, intellectual, social, emotional, spiritual aspects of health (C2) 2. Explain the relationship between health and occupation (C2) 3. Explain occupational well-being and eudaimonic occupations (C2) 4. Explain how insufficient occupation is detrimental to health (C2) 5. Explain barriers to healthful occupations (C2)	
Occupational justice	1.Explain occupational justice and injustice (C2) 2.Explain forms of occupational injustice (C2) 3.Outline the strategies and practice imperatives to promote occupational justice in occupational therapy practice (C2)	
Therapeutic occupations and modalities	1. Explain active occupations and philosophical foundations of therapeutic occupations (C2) 2. Explain the terms purposeful occupation and activity (C2) 3. Explain characteristics of purposeful activities (C2)	
Therapeutic crafts	1. Explain the role of crafts in occupational therapy (C2)	
Unit 2: Activity analysis in occupational therapy		
Activity analysis	1. Explain the levels of activity analysis (C2) 2. Outline the principles of activity analysis in occupational therapy (C2) 3. Outline activity analysis based on therapeutic approaches (C2) 4. Summarize adaptation and gradation of activities (C2) 5. Explain activity analysis format for a basic activity (C3)	48
Basic activity analysis	1. Apply form 1 and 2 of activity analysis format while analysing the activity of Origami (C4, P4, A3) 2. Apply form 3 of activity analysis format while analysing the activity of Origami (C4, P4, A3) 3. Apply form 4 of activity analysis format while analysing the activity of Origami (C4, P4, A3)	

Content	Competencies	Number of Hours
	4. Apply form 1 and 2 of activity analysis format while analysing the activity of dressing (C4, P4, A3) 5. Apply form 3 of activity analysis format while analysing the activity of dressing (C4, P4, A3) 6. Apply form 4 of activity analysis format while analysing the activity of dressing (C4, P4, A3)	
Theory focused activity analysis	1. Apply form 3 of activity analysis format while analysing the activity of playing football using biomechanical frame of reference (C4, P4, A3) 2. Apply form 4 of activity analysis format while analysing the activity of playing football using biomechanical frame of reference (C4, P4, A3)	
Occupation-based activity analysis	1. Apply form 4 of activity analysis format while observing a client performing an activity (C4, P4, A4) 2. Apply form 5 of activity analysis format while observing a client performing an activity (C4, P4, A4)	
Unit 3: Theoretical base of occupational therapy		
Practice frameworks in occupational therapy	1. Explain medical model (C2) 2. Explain client-centred model (C2) 3. Outline the European conceptual framework for occupational therapy (C2) 4. Outline the Canadian Practice Process Framework (C2) 5. Outline the International Classification of Functioning, Disability and Health (C2) 6. Outline the Occupational Therapy Practice Framework (C2)	28
Framing and understanding knowledge in occupational therapy	1. Define the terms theory, concepts, constructs, framework, frame of reference used in occupational therapy (C2) 2. Explain the models used in occupational therapy (C2) 3. Summarize acquisitional, analytic and developmental frames of reference in occupational therapy (C2) 4. Distinguish between acquisitional, analytic and developmental frames of reference in occupational therapy (C4) 5. Explain the models and frames of reference in relation to occupational therapy practice framework (C2)	
Model of Human Occupation (MOHO)	1. Explain the origin, aims, focus and theoretical base of Model Of Human Occupation (C2) 2. Explain function and disability of Model Of Human Occupation (C2) 3. Outline the open system cycle – person, environment and occupation (C2)	

Content	Competencies	Number of Hours
	4. Explain occupational performance and occupational adaptation (C2) 5. Apply MOHO concepts in occupational therapy process using case simulations (C3, P3, A3)	
Canadian Model of Occupational Performance and Engagement (CMOP-E)	1. Explain the origin and aims of Canadian Model of Human Occupation (C2) 2. Outline the view of the person, environment and occupation in the CMOP-E (C2) 3. Application of CMOP-E concepts to the occupational therapy process using case simulations (C3, P3, A3)	
The Person Environment Occupational Performance (PEOP) Model	1. Explain the origin, aims, focus and theoretical base of Person Environment Occupational Performance Model (C2) 2. Outline the function and disability, view of the person, environment and occupation (C2) 3. Application of PEOP model to the occupational therapy process using case simulations (C3, P3, A3)	
Integrating theory into practice	1. Compare the focus, theoretical base, function/dysfunction, change and motivation among the Model of Human Occupation, Person Environment Occupation Performance and Canadian Model of Occupational Performance and Engagement (C4) 2. Compare the evaluation process, intervention guidelines among the Model of Human Occupation, Person Environment Occupation Performance and Canadian Model of Occupational Performance and Engagement using the template for analysis worksheet (C4)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	52	156
Revision	-	-
Assessment	-	-
Total	**91**	**273**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory and Practical)
Quiz	End Semester Exam (Theory and Practical)
Assignment/ Presentations	
Record Book	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x				
Quiz	x			x		
Assignments/Presentations	x	x	x	x		
Record Book		x	x			
End Semester Exam	x	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Crepeau EB, Cohn ES, Schell BB, editors. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2013 2. Christiansen CH, Townsend EA, editors. Introduction to Occupation: The art and science of living. NJ, USA: Prentice Hall; 2004 3. Pendleton HM, Schultz-Krohn W, editors. Pedretti's Occupational Therapy: Practice skills for physical dysfunction. 7th ed. Missouri: Mosby Inc.; 2012
Additional References	1. Hersch GI, Lamport NK, Coffey MS. Activity analysis: Application to occupation. 5th ed. NJ, USA: SLACK Incorporated; 2005 **2.** Cole MB, Tufano R. Applied Theories in Occupational Therapy: A practical approach. NJ, USA: SLACK Incorporated; 2008 3. Dsouza SA, Galvaan R, Ramugondo EL. editors. Concepts in occupational therapy: Understanding southern perspectives. Manipal: Manipal University Press; 2017

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork - III**
Course Code	**OCT2231**
Academic Year	Second Year
Semester	IV
Number of Credits	6
Course Prerequisite	Assessments in Occupational Therapy – I & II, Basic Competencies for Occupational Therapists- (I & II), Clinical Fieldwork-I & II
Course Synopsis	1. It provides an opportunity for students to practice occupational therapy evaluations in real-life situations, under supervision and develop reasoning skills. 2. It also provides an opportunity for students to practice documentation of client's evaluation and report writing, under supervision.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Interview occupational therapy clients, under supervision. (C3, P4, A3)
CO2	Apply occupational therapy evaluation skills in clinical settings, under supervision. (C3, P4, A3)
CO3	Develop the skill of documenting the evaluation of clients under supervision. (C3, P3)
CO4	Conduct self in professional manner in clinical settings (C3, P5, A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2		x		x				
CO3	x							
CO4				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Practice occupational therapy evaluation skills in the areas of Neuro-rehabilitation, Musculoskeletal rehabilitation, Pediatric Habilitation and Mental Health and Psycho-social rehabilitation, under supervision.		
1. Develop occupational profile of clients, under supervision (C3, P4, A3) 2. Apply OTPF level II checklist in clinical settings to identify occupational dysfunctions and their underlying factors (performance skills, client factors, performance contexts/ environment and performance patterns) for occupational therapy clients, under supervision. (C3, P4, A3) 3. Build the skill of documenting client's evaluation, under supervision. (C3, P3) 4. Apply professional attributes in clinical settings (initiation, observation		Clinical Discussions (48 hours) Pre-clinical practice (48 hours) Clinical practice (138

Content	Competencies	Number of Hours
skill, time management, communication skills and self-directed learning) (C3, P5, A4)		hours)

Learning Strategies, Contact Hours and Student Learning Time (SLT):						
Learning Strategies	**Contact Hours**	Student Learning Time (SLT)				
Lecture	-	-				
Seminar	-	-				
Small group discussion (SGD)	96	192				
Self-directed learning (SDL)	-	-				
Problem Based Learning (PBL)	-	-				
Case Based Learning (CBL)	-	-				
Clinic	138	276				
Practical	-	-				
Revision	-	-				
Assessment	-	-				
Total	**234**	468				
Assessment Methods:						
Formative:	Summative:					
Viva	End of Posting Exam					
Assignments/Presentations	-					
Clinical/Practical Log Book	-					
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**		
Viva	x					
Assignments/Presentations	x	x	x			
Clinical/Practical Log Book				x		
End of Posting Exam	x	x	x	x		
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48.					
	2. Clinical Format					

SEMESTER - V

COURSE CODE	:	COURSE TITLE
NEP3101	:	Neurosciences and Paediatrics
ORT3101	:	Orthopaedics
OCT3101	:	Occupational Therapy Interventions
OCT3111	:	Occupational Therapy Interventions (Practical)
OCT3102	:	Enabling Occupations
OCT3131	:	Clinical Fieldwork - IV
*** ****	:	Open Elective- II

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Neurosciences and Paediatrics**
Course Code	**NEP3101**
Academic Year	Third year
Semester	V
Number of Credits	3
Course Prerequisite	Anatomy- I & II, Physiology - I & II, Pathology, Microbiology Pharmacology
Course Synopsis	1. This course describes common neurological, neurosurgical conditions and medical management for the same 2. It also describes common paediatric conditions and its medical management

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Describe the etiology, clinical features, diagnosis and medical/surgical management for common neurological, neurosurgical and pediatric conditions (C2)
CO2	Outline the clinical aspects that need to be considered in occupational therapy / physiotherapy interventions, such as surgical procedures, prognosis, precautions, contraindications and complications (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Neurology: This unit covers the various neurological conditions (13 hours)		
1. Stroke	1.Define stroke and list the types (C1) 2. List the risk factors, explain the features of various stroke syndromes (C2) 3. Outline the medical and surgical management of ischemic and hemorrhagic stroke (C2)	13
2. Cranial nerve disorders	1.List the disorders of cranial nerves, its etiology and clinical features (C1) 2. Describe the medical management of cranial nerve disorders with emphasis on V, VII, IX and X (C2)	
3. Infections of nervous system	1. List the disorders arising due to infection of nervous system (C1) 2.Describe the clinical features, investigation findings and medical management of meningitis, encephalitis and AIDs (C2)	
4. Demyelinating	1. List the disorders arising due to demyelination of	

Content	Competencies	Number of Hours
diseases of nervous system	brain and spinal cord (C1) 2. Classify myelin disorders (C2) 3. Describe the clinical features, diagnostic criteria, medical management of multiple sclerosis and optic neuritis (C2)	
5. Spinal Cord lesions	1. Describe the etiology, clinical features, diagnosis and medical/surgical management of transverse myelitis, and syringomyelia. (C2)	
6. Extrapyramidal syndromes	1.Outline the neurophysiology of basal ganglia (C2) 2.Describe the classification, Pathology, Clinical features, Medical management of Parkinson's disease (C2) 3.Outline the clinical features, and medical management of Wilson's disease, progressive supranuclear palsy, dystonias and dyskinesias (C2)	
7. Degenerative diseases	1.List the various degenerative diseases (C1) 2.Describe the types, clinical features, diagnostic criteria and medical management of motor neuron disease, dementia and Alzheimer's disease (C2)	
8.. Myasthenia gravis	1.Define myasthenia gravis (C1) 2.Describe the etiology, pathology and clinical features and diagnosis of myasthenia gravis (C2) 3.Classify myasthenia gravis (C2) (Osserman classification system) 4.Summarize the medical management of myasthenia gravis (C2)	
9. Polyneuropathy	1.Classify polyneuropathy.(C2) 2.Describe the etiology, clinical features and medical management of Guillain Barre' syndrome, diabetic neuropathy, hereditary motor sensory neuropathy (C2)	
10.Myopathies and Muscular dystrophies	1.Classify myopathies and muscular dystrophies (C1) 2. Outline the features and management of myopathies and muscular dystrophies with emphasis to Duchenne's Muscular Dystrophy (C2)	
11.Cerebellar disorders	1. Describe the etiology, clinical features of cerebellar disorders (C2) 2.List out the clinical tests (C1) 3.Describe the management of cerebellar disorders (C2)	
Unit 2: Neurosurgery: This unit convers various neurosurgical conditions (13 hours)		
1. Head injury	1. Outline the causes, types and mechanism of head injury. (C2) 2.Describe the features of concussion, diffuse axonal injury, epidural, subdural, subarachnoid and intracranial bleeding (C2) 3.Describe the investigatory findings, medical and surgical management of head injury (C2) 4.Outline the complications following head injury and its	13 hours

Content	Competencies	Number of Hours
	management (C2)	
2. Tumors of neurological system	1.Classify various brain and spinal tumors (C2) 2.Describe the differential diagnosis, clinical features, prognosis, medical and surgical management of brain and spinal tumors (C2)	
3. Spinal cord lesion	1.Describe the mechanism of injury and clinical features of spinal cord lesions (C2) 2.Describe the acute management and surgical procedures following spinal cord injury(C2) 3.List the common complications (C1) and its management following spinal cord injury (C2)	
4. Neurogenic bladder	1.Describe the classification and medical management of neurogenic bladder (C2)	
5. Paediatric conditions	1. Describe the types, clinical features, medical, and surgical management of hydrocephalus and spinal dysraphism. (C2)	
6. Peripheral nerve lesions	1. Classify peripheral nerve injuries. (C2) 2.Describe the features, medical and surgical management of the peripheral nerve injuries (C2)	
7.Cerebrovasular anomalies	1.Describe the features, complications and surgical management of cerebrovascular anomalies (C2)	
Pediatrics		
1. Normal development and maturation	1. Outline the normal development and maturation. (C2) 2.Describe the factors influencing neurodevelopment (C2)	13 hours
2.Developmental assessment and early intervention	1.Descibe the developmental assessment and early intervention (C2)	
3. Congenital and hereditary neuromuscular diseases	1.Describe the etiology, clinical features, diagnosis and medical management of muscular dystrophy (C2)	
4. Obstetric brachial plexus injury	1.Describe the etiology, clinical features, diagnosis and medical management of obstetric brachial plexus injury (C2)	
5. Mental Retardation and Down's Syndrome	1. .Describe the etiopathology, clinical features and management of mental retardation and down's syndrome (C2)	
6. Malnutrition and Vitamin deficiencies	1.Outline the various conditions related to malnutrition and vitamin deficiencies and its management (C2)	
7. Cerebral Palsy	1.Describe the etiology, clinical features, diagnosis and medical management of cerebral palsy (C2)	
8. Spinal muscular atrophies	1.Describe the etiology, clinical features, diagnosis and medical management of spinal muscular atrophies (C2)	

Content	Competencies	Number of Hours
9. Endocrinal disorders in children	1.Outline the various endocrinal disorders in children (C2) 2.Define childhood obesity (C1) 3.Describe the complications of childhood obesity (C2)	
10.Paediatric Respiratory conditions	1.Outline common pediatric respiratory diseases (C2) 2.Describe the etiology, clinical features, diagnosis and medical management of asthma, tuberculosis, bronchiectasis and acute respiratory distress syndrome (C2)	
11.Intensive neonatal care	1.Describe the respiratory care, infectious diseases and long term complications in NICU and PICU (C2)	
12. Congenital cardiovascular problems	1.Classify congenital heart disease (C2) 2.Describe the etiology, clinical features, diagnosis and medical management of rheumatic Fever, atrial septal defect, ventricular septal defect, tetralogy of Fallot (C2)	
13. Juvenile Arthritis	1.Define juvenile arthritis (C1) 2.Describe the etiology, clinical features, diagnosis and medical management of juvenile arthritis (C2)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):			
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**	
Lecture	39	117	
Totalr	**39**	**117**	
Assessment Methods:			
Formative:	**Summative:**		
--	Mid Semester/Sessional Exam (Theory)		
--	End Semester Exam (Theory)		
Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	
Sessional Examination 1	x	x	
Sessional Examination 2	x	x	
End Semester Exam	x	x	
Feedback Process:	Mid-Semester Feedback		
	End-Semester Feedback		
Main Reference:	Lindsay KW, Bone I, Fuller G. & Callander, R. Neurology and neurosurgery illustrated. Edinburgh: Churchill Livingstone; 2010		
	Ghai OP, Paul VK & Bagga A. Essential pediatrics. New Delhi: CBS Publishers; 2013.		
Additional References	Colledge, NR, Walker, BR, Ralston, S & Davidson S. Davidson's principles and practice of medicine. Edinburgh: Churchill Livingstone/Elsevier; 2010		

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Orthopaedics**
Course Code	**ORT3101**
Academic Year	Third year
Semester	V
Number of Credits	2
Course Prerequisite	Nil
Course Synopsis	This module is drafted to learn about : • Mechanism and surgical management of different types of Traumatic orthopaedics conditions. • Aetiology, Clinical features, diagnosis and treatment of different non-traumatic orthopaedics conditions. This will enable students to rationalize and apply the gained knowledge to rehabilitate patients with diverse orthopaedics conditions.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	The student should be able to acquire basic knowledge of aetiology/mechanism of orthopaedics conditions (C1)
CO2	The student should be able to understand the classification, diagnosis and primary management of traumatic orthopaedics conditions (C1,C2)
CO3	The student should be able to understand the diagnosis, clinical features and treatment of non-traumatic orthopaedics conditions (C1,C2)
CO4	The student should be able to apply the acquired knowledge in orthopaedic clinical set up (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
A. TRAUMATOLOGY		
Unit 1		
Introduction to fractures	• Define fracture (C1) • Classify fractures (C2) • Discuss phases of fracture healing (C2) • Explain the principles of fracture management (C2)	01
Unit 2		
Fracture Complications	• Describe complications of fractures (Early,	01

Content	Competencies	Number of Hours
	Delayed and Late) **(C2)** • Discuss management of complication **(C2)**	
Unit 3		
Injuries around the shoulder	• Describe Mechanism **(C2)** • List clinical features **(C1)** • Explain the Conservative and surgical management of Shoulder dislocation**/**Fracture; Fracture Clavicle **(C2)**	02
Unit 4		
Injuries around the elbow	• Describe Mechanism **(C2)** • List clinical features **(C1)** • Explain the Conservative and surgical management of supracondylar fracture of the humerus & its complications and dislocation of the elbow **(C2)**	01
Unit 5		
Injuries of the forearm	• Describe Mechanism **(C2)** • List clinical features **(C1)** • Explain the Conservative and surgical management of Monteggia and Galeazzi fracture dislocation **(C2)**	01
Unit 6		
Fractures of the wrist & hand	• Describe Mechanism **(C2)** • List clinical features **(C1)** • Explain Conservative and surgical management of Scaphoid, Colles', Smith's, Barton's fractures **(C2)**	01
Unit 7		
Peripheral nerve injuries (PNI) & tendon injuries Orthoses	*Peripheral nerve injuries* • Classify **(C2)** • List clinical features PNI **(C1)** • Explain Conservative and surgical management of PNI **(C2)** *Tendon injuries* • List types & clinical features of **(C1)** • Explain Conservative and surgical management of tendon injuries **(C2)** Define Orthoses (C1) List Upper limb and lower limb orthosis (C1) • Outline the application (C2)	02
Unit 8		
Soft tissue injuries of knee and ankle	*Meniscal injuries, Cruciate ligament injuries, Collateral injuries* • Describe Mechanism (C2) • List clinical features (C1) • Explain Conservative and surgical management(C2) *Ankle sprain*	01

Content	Competencies	Number of Hours
	• List Ankle sprain (C1) • Explain Conservative and surgical management (C2)	
Unit 9		
Arthroscopy of knee and shoulder	*ACL,PCL,PLC & meniscus* Explain Reconstructive & Rehabilitative management (C2) *Rotator cuff and labral tears* Explain Reconstructive & Rehabilitative management (C2)	01
Unit 10		
Fractures of lower extremity	*Shaft of femur, Supracondylar femur, Tibia plateau, tibia and fibula. ankle &foot* • Describe Mechanism (C2) • List clinical features (C1) • Explain Conservative and surgical management (C2)	01
Unit 11		
Fracture of the proximal femur	*neck of femur, intertrochanteric and subtrochanteric* • Describe Mechanism (C2) • List clinical features (C1) • Explain Conservative and surgical management management (C2)	01
Unit 12		
Pelvic fractures and hip dislocation	• Classify (C2) • Discuss Mechanism (C2) • List clinical features (C1) • Explain Conservative and surgical management (C2)	01
Unit 13		
Fractures of the spine	• Classify (C2) • Discuss Mechanism (C2) • List clinical features (C1) • Explain Conservative and surgical management management (C2) *Paraplegia* • Outline Aetiology (C2) • Define levels (C1) • List complications (C1) and describes clinical presentations(C2) • Explain Conservative and surgical management management (C2)	01
B. COLD ORTHOPEDICS		
Unit 14		
Congenital anamolies	*CTEV, DDH, Vertical talus,* ***MCC*** • Outline Aetiology (C2) • List Clinical features (C1)	01

Content	Competencies	Number of Hours
	• Explain Conservative and surgical management management (C2)	
Unit 15		
Tumours	• Classify **(C2)** • Outline Aetiology (C2) • List Clinical features (C1) • Explain Conservative and surgical management management (C2)	01
Unit 16		
Neuromuscular disorders	*Cerebral palsy, Poliomyelitis* • Outline Aetiology (C2) • Explain presentation (C2) • Explain Conservative and surgical management management (C2)	01
Unit 17		
Spinal disorders	*Disc prolapse, spinal canal stenosis and spondylolisthesis and non-specific backache* • Define (C1) • List stages **(C2)** • Outline Aetiology (C2) • List Clinical features (C1) • Explain Conservative and surgical management management (C2)	01
Unit 18		
Infections	*Acute & chronic osteomyelitis, septic arthritis, tubercular arthritis* • Describe Aetiopathogenesis (C2) • List Clinical features (C1) • Illustrate complications (C2) • Explain Conservative and surgical management management (C2)	01
Unit 19		
Arthritis	• Define and classify arthritis (C1, C2) • Outline Aetiology (C2) • List Clinical features (C1) • Explain Conservative and surgical management management of osteoarthritis, rheumatoid and haemophilic arthritis (C2)	02
Unit 20		
Deformities	*Axial skeleton (Torticollis, scoliosis, kyphosis), Upper limbs (Cubitus valgus/varus, wrist and hand deformities), Lower limbs (Coxa vara infantile, adolescent, acquired; genu valgum/varum; torsional deformities, flat foot)* • Define (C1) • Explain Aetiology of each condition (C2) • List clinical features (C1)	02

Content	Competencies	Number of Hours
	• Discuss Conservative and surgical management management (C2)	
Unit 21		
Extremity Soft tissue lesions	*Periarthritis of the shoulder, supraspinatus tendinitis, tennis elbow, carpal tunnel, syndrome, trigger finger, DeQuervain's disease, Depuytren's contracture, plantar fasciitis:* • Define (C1) • Explain Aetiology of each condition (C2) • List clinical features (C1) • Discuss Conservative and surgical management management (C2)	01
Unit 22		
Amputation and Prostheses	List Levels & Indications of amputation (C1) Explain rationale and Orthopaedic management (C2) Define Prostheses (C1) List Upper limb and lower limb Prostheses (C1) Outline the application (C2)	01

Learning Strategies, Contact Hours and Student Learning Time (SLT):					
Learning Strategies		**Contact Hours**		**Student Learning Time (SLT)**	
Lecture		26		78	
Total		**26**		**78**	
Assessment Methods:					
Formative:	**Summative:**				
Unit Test	Mid Semester/Sessional Exam (Theory)				
	End Semester				
Mapping of Assessment with COs:					
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1		x	x	x	x
Sessional Examination 2		x	x	x	x
End Semester		x	x	x	x
Feedback Process:	Mid-Semester & End-Semester Feedback				
Main Reference:	1. Maheshwari J. Essential Orthopaedics, 4th edition. India: Jaypee Brothers Medical Publishers; 2011				
	2. Solomon D, Apley AG & Warwick D. Apley's System of Orthopaedics and fractures. USA: CRC Press.				

Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy Interventions (Theory & Practical)**
Course Code	**OCT3101 (Theory)/ OCT3111 (Practical)**
Academic Year	Third year
Semester	V
Number of Credits	4 [Theory - 2; Practical- 2]
Course Prerequisite	Assessments in Occupational Therapy-(I & II); Basic Competencies for Occupational Therapists-(I & II)
Course Synopsis	1. This course describes the occupational therapy process of intervention. 2. This course also describes common occupational therapy intervention approaches and the use of client education in the occupational therapy process. 3. This course further explains preparatory methods and tasks used in occupational therapy: mobility aids, wheelchair prescription and training, physical adjunct modalities, biofeedback, therapeutic exercises, assistive technology, orthotics, prosthetics, and hand splinting.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the occupational therapy process for intervention. (C2)
CO2	Apply common approaches and client education to enable occupational participation. (C3).
CO3	Explain client requirements and prescribe mobility aids, wheelchairs, assistive devices, orthotics, prosthetics, and hand splinting using case simulations. (C6, P4, A3)
CO4	Select preparatory methods and tasks to enable occupational participation using a model. (C5, P4, A3)
CO5	Construct basic splints and assistive devices on the model. (C6, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	x	x						
CO2	x					x		
CO3		x					x	
CO4			x			x		
CO5			x				x	

Course Content and Outcomes:

Content	Competencies	Number of Hours
Unit 1: Introduction to Occupational Therapy intervention: This section will help to develop an understanding of the occupational therapy process.		
Overview of the occupational	1. Explain the components of occupational therapy (OT) process and explain SMART goals. (C2)	10

Content	Competencies	Number of Hours
therapy process	2. Outline the development and implementation of an intervention plan. (C2)	
Common approaches for enabling occupation	1. Explain the assumptions, function and dysfunction continuum of biomechanical frame of reference. (C2) 2. Select appropriate intervention methods based on the biomechanical frame of reference. (C3) 3. Explain the assumptions, function and dysfunction continuum of rehabilitative frame of reference. (C2) 4. Select appropriate intervention methods based on the rehabilitative frame of reference. (C3)	
Educating the client	1. Explain key factors that contribute to effective client education. (C2) 2. Outline different methods used to educate clients. (C2)	
Unit 2: Preparatory methods and tasks: This section will help to gain an understanding of preparatory methods and tasks used to improve occupational performance.		
Mobility Aids	1. Explain functional ambulation, and classification of mobility aids. (C2) 2. List the prerequisites for using mobility aids and procedure for selecting different mobility aids, based on their advantages and disadvantages. (C4) 3. Explain gait patterns with ambulatory aids such as cane, crutch & walker. (C5) 4. Apply measurement procedures for different mobility aids. (C3, P3, A3) 5. Explain mobility aids and their uses in different gait patterns using case simulation (C5, P4, A3)	68
Wheelchair prescription and training	1. Explain standard wheelchair and its parts, and explain categories of wheelchairs based on function. (C2) 2. Explain wheelchair selection techniques. (C2) 3. Outline principles of seating and safety considerations. (C2) 4. Identify wheelchair accessories and wheelchair modifications for a specific problem. (C3) 5. Identify standard wheelchair and its parts and their use. (C3, P1, A1) 6. Apply measurement procedures for standard wheelchairs, with an emphasis on wheelchair parts such as seat width, depth, height, and backrest and armrest height (C3, P4, A3) 7. Explain wheelchair propulsion such as forward, backward, turning on sides, clearing the obstacle, moving up and down the ramp using a model. (C2, P4, A3)	
Lifts and transfer	1. Explain different types of lifts such as two-person carry, log roll transfer, pivot transfer, sliding board transfer. (C2)	

Content	Competencies	Number of Hours
	2. Explain the categorization of different types of lifts and transfers such as assisted & independent trapeze transfer, mechanically assisted transfer, mechanical lift, (C2) 3. Outline different types of wheelchair transfers. (C2) 4. Apply techniques of different types of lifts and transfers such as two-person carry, log roll transfer on models. (C3, P4, A3) 5. Apply techniques of pivot transfer, sliding board transfer and wheelchair transfer on a model. (C2, P4, A3)	
Physical Adjunct Modalities in Occupational Therapy	1. Explain bio-physiological effects, indications, contraindications and clinical reasoning for the selection of cryotherapy and superficial thermal agents, and its clinical application. (C2) 2. Explain bio-physiological effects, indications, contraindications and clinical reasoning for the selection of ultrasound and low-level Laser, and its clinical application. (C2) 3. Explain bio-physiological effects, indications, contraindications and clinical reasoning for the selection of light therapy and electrotherapy biofeedback, and their clinical application. (C2) 4. Apply techniques of different physical adjunct modalities such as hot & cold pack, TENS, wax bath and FES used for various therapeutic purposes using simulation. (C3, P3, A2)	
Biofeedback	1. Explain biofeedback, types of biofeedback such as electromyography (EMG), electro goniometer, and temperature. Also explain biofeedback instrumentation, patient selection and preparation of the patient for biofeedback application. (C2) 2. Explain EMG biofeedback as treatment applications for muscle re-education & strengthening, decreasing spasticity, urinary incontinence and hand injury. (C2, A1)	
Therapeutic exercises	1. Explain therapeutic exercise, its use, purpose, indications and contra-indications. (C2) 2. Explain different exercise programs, types of muscle contraction (C2) 3. List different exercise and activity classification. (C1)	
Assistive technology	1. Explain assistive technology, its application and steps of the assistive technology assessment process. (C2) 2. Explain the process of matching user abilities and technology. (C2) 3. Explain different AT intervention process, adaptive aids, and control enhancers. (C2) 4. Explain augmentative and alternative communication and electronic aids used in daily	

Content	Competencies	Number of Hours
	living. (C2) 5. Explain mobile arm support based on its characteristics, components and use. (C2) 6. Identify different assistive devices and their application. (C3, P4, A1) 7. Develop a modified spoon on model using aluminium. (C6, P4, A3) 8. Develop a modified spoon on model using thermofome (C6, P4, A3)	
Overview of Orthosis and Prostheses.	1. Explain different upper extremity prostheses. (C2) 2. Explain different lower extremity prostheses. (C2) 3. Explain different upper extremity orthoses. (C2) 4. Explain different lower extremity orthoses. (C2) 5. Identify different types of upper and lower extremity prosthetics. (C3,P1,A1) 6. Identify different types of upper and lower extremity orthotics. (C3,P1,A1)	
Hand Splinting	1. Explain the American Society for Hand Therapists classification of the splint. (C2) 2. Outline splint classification based on the type. (C2) 3. Outline splint classification based on the purpose. (C2) 4. Outline splint classification based on design. (C2)	
Tools and raw materials	1. Identify different tools & materials used in splint making. (C3, P1, A1)	
Basic splinting skills	1. Apply following splinting skills such as cutting metals, filing, drilling, stitching, riveting, flattening of metal sheet or strip, rounding the metal corners, dismantling and deburring of holes using appropriate tools and raw materials. (C3, P4, A1) 2. Apply following splinting skills such as the use of adhesive, strapping, joining of thermoplastic, smoothening edges using appropriate tools and raw materials. (C3, P4, A1)	
Demonstration of splints	1. Identify different splints such as a gutter splint, stack splint, ankle-foot orthosis (AFO), ring splint, flexion out-trigger splint extensor out-trigger splint, cock-up splint, shoulder sling. (C3, P1, A1)	
Paper pattern	1. Build Wrist Cock-up splint on model using paper. (C3, P4, A1) 2. Build Ulnar Gutter splint on model using paper. (C3, P4, A1) 3. Build thumb opponens splint on model using paper. (C3, P4, A1) 4. Build Resting Hand splint on model using paper. (C3, P4, A1) 5. Build Elbow Extension splint on model using paper. (C3, P4, A1)	
Splint fabrication	1. Identify indication of Ankle Foot Orthosis (AFO),	

Content	Competencies	Number of Hours
	tools & material used to prepare and its measurement procedure. (C3 P4, A3) 2. Build Ankle Foot Orthosis (AFO) on model using paper patterns. (C3, P4, A3) 3. Identify the indications for shoulder sling, along with tools and materials used to prepare and its measurement procedure. (C3, P4, A3) 4. Build shoulder sling on a model using splint materials. (C3, P4, A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	52	156
Revision	-	-
Assessment	-	-
Total	**78**	**234**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester Exam (Theory & Practical)
Quiz	End Semester Exam (Theory & Practical)
Assignments/Presentation	--
Record Book	--

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x	x	x
Assignments/Presentations	x	x	x	x	x
Clinical/Practical Log Book/ Record Book	-	-	-	-	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Pedretti, LW, Pendleton H., & Schultz-Krohn W. Pedretti's occupational therapy: Practice skills for physical dysfunction. 8th edition. St. Louis, Mo: Elsevier; 2018 2. Radomski, MV, & Latham, C. Occupational therapy for physical dysfunction. 7th edition. Philadelphia: Lippincott Williams & Wilkins; 2013 3. Fess EE., Gettle K, Cynthia AP &Janson JR. Hand and Upper Extremity Splinting: Principles and Methods. USA:

	Mosby Publishing; 2004
Additional References	1. Schell BA, Gillen G, Scaffa M, Cohn ES. Willard and Spackman's occupational therapy. 12th ed. Philadelphia: Lippincott Williams and Wilkins; 2013 2. Turner A, Foster M & Johnson SE. Occupational therapy and Physical dysfunction: Enabling occupation. 6th edition. Churchill Livingstone; 2012 3. Rybski M., Kinesiology for Occupational Therapy. NJ, USA: SLACK Incorporated; 2004 4. O'Sullivan S B, Schmitz TJ, Fulk GD. (2014) Physical rehabilitation. 6th edition Philadelphia: F.A. Davis Company; 5. G. Cooper. (2006) Essential Physical Medicine and Rehabilitation. Humuna Press.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Enabling Occupations**
Course Code	**OCT3102**
Academic Year	Third year
Semester	V
Number of Credits	3
Course Prerequisite	Introduction to Occupational Therapy, Assessments in Occupational Therapy – I and II, Activities & Occupations
Course Synopsis	1. This course describes the interventions to facilitate client's participation in various occupations (activities of daily living, instrumental activities daily living, play, leisure, work, education & social participation) and co-occupations (caregiving and child rearing) 2. This course also describes the interventions for facilitating physical accessibility to home, school, work and community.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Identify intervention strategies to facilitate client's participation in various occupations and co-occupations (C3)
CO2	Develop strategies to enhance client's participation for varied occupations and co-occupations (C5)
CO3	Explain the process for assessment and interventions directed at the physical environment in various contexts (including home, school, work and community) (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x					x	
CO3		x					x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Restoring Client's Occupations: This unit explains the process of intervention for various occupations		
1. Restoring activities of daily livings and Instrumental activities of daily living	1.Explain four performance parameters in order to identify goals for intervention that target client behaviors (C2) 2. Identify appropriate degree of performance in planning meaningful intervention (C3) 3.Explain various factors to be consider for setting realistic goals (C5) 4.Explain most common approaches (restore/compensate) for ADL and IADL intervention	29

Content	Competencies	Number of Hours
	(C5) 5.Explain the difference in the role of client and caregiver education in therapy for ADL and IADL intervention (C5) 6. Explain different means of grading the intervention program. (C5)	
2. Work Rehabilitation	1.Identify the factors that interrupt person ability to work (C3) 2. Explicate the intervention types in work rehabilitation: Work hardening and work conditioning (C4) 3. Explain the steps involved in return to work process (C5) 4. Analyze the return to work decision pathway (C4) 5. Explain basic ergonomic interventions (C5) 6. Explain the injury prevention programs in work rehabilitation (C2)	
3. Play and Leisure	1. List the purposes of using play and leisure in intervention. (1) 2. Explain use of play and leisure in intervention as means: to address client factors/performance skills/to enhance areas in occupations (C2) 3. Explain the types of interventions to facilitate play and leisure as ends through: Therapeutic use of occupations and Activities and educational process (C2) 4.Explain the types of interventions to facilitate play and leisure as ends through: Consultation process and Advocacy (C2)	
4. Caregiving and Childrearing	1.Distinguish between childrearing and caregiving occupations (C4) 2.Explain ecological, developmental and occupation-centered perspectives of caregiving and childrearing (C5) 3. Explain the process of evaluating caregiving and childrearing needs-parenting a child with a disability and caring for an adult with disability (C2) 4. Explain the process of evaluating caregiving and childrearing needs- being a caregiver with disability (C2) 5.Explain intervention strategies to enhance caregiving and childrearing (C2)	
5. Education	1.Explain the occupational therapy process applied in an educational setting (C2) 2.Identify key requirements of occupational therapy services under different disability acts (C3) 3.Describe common evaluation methods and tools used in educational settings (C5) 4.Explain occupational therapy service delivery model in educational setting (C5)	

Content	Competencies	Number of Hours
6. Social Participation	1.Explain Social Participation (C2) 2. Explain assessment strategies to evaluate social participation in varied context (C2) 3.Explain intervention types to promote social participation as end goals, using a client-centred approach (C2)	
Unit 2: Community access		
1. Access to home, school, work and Community	1. Explain the role of physical environment in occupational performance (C2) 2. Identify useful measures to assess the physical environment in the contexts of home, school, community, and workplace (C3) 3. Explain the principles of universal design (C2) 4. Explain the process for addressing the physical environment while planning for and implementing interventions (C5) 5. Explain environmental intervention strategies that can be applied in various contexts across the life course - Home and Work (C5) 6. Explain environmental strategies that can be applied in various contexts across the life course-School and community (C5)	10
2. Driver Rehabilitation	1. Explain health related condition that impair driving (C2) 2. Identify the role of Non-driving trained occupational therapist in driving rehabilitation. (C3) 3. Explain occupational therapy driving specialist assessment (C5) 4. Explain occupational therapy driving specialist interventions (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:			
Formative:	**Summative:**		
Unit Test	Mid Semester/Sessional Exam (Theory)		
Quiz	End Semester Exam (Theory)		
Assignments/Presentations	**--**		
Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Mid Semester / Sessional Examination 1	x	x	
Quiz		x	x
Assignments/Presentations		x	x
End Semester Exam	x	x	x
Feedback Process:	Mid-Semester Feedback		
	End-Semester Feedback		
Main Reference:	1. Crepeau EB, Cohn ES, Schell BS. Willard and Spackmann's Occupational Therapy; 11th ed. North America: Lippincott Williams & Wilkins; 2008. 2. Schell BA, Gillen G, Scaffa M, Cohn ES. Willard and Spackman's occupational therapy. 12th ed. Philadelphia: Lippincott Williams and Wilkins; 2013.		
Additional References	1. Turner A, Foster M, Johnson SE. Others, Occupational Therapy and Physical Dysfunction: Principles Skills and Practice. 6th ed., Churchill Livingstone, London 2010.		

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork-IV**
Course Code	**OCT3131**
Academic Year	Third year
Semester	V
Number of Credits	5
Course Prerequisite	Assessments in Occupational Therapy- I & II, Basic Competencies for Occupational Therapists- I & II, Activities and Occupation, Clinical Fieldwork-I, II & III
Course Synopsis	1. This course provides opportunities for the students to interact with clients and caregivers during occupational therapy sessions, and to assist in therapy interventions, under supervision in the areas of orthopaedic, neurologic and community settings. 2. It also lets students establish treatment goals and identify treatment approaches to be used based on evaluation for common neurologic and orthopaedic conditions in acute and community settings. 3. It further provides an opportunity for students to practice occupational therapy documentation of client's evaluation, intervention and progress with an emphasis on reasoning skills, under supervision.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Develop interaction with clients and/ or caregivers, and identify the prioritized occupations based on evaluation, under supervision for common orthopaedic and neurological conditions in acute and community settings. (C5, P6, A5)
CO2	Select treatment goals, under supervision in collaboration with clients and/or caregivers for common orthopedics and neurological conditions in acute and community settings. (C5, P4, A4)
CO3	Identify treatment approaches to be used for clients with common orthopedics and neurological conditions in acute and community settings and assist in interventions using these approaches under supervision (C3, P4, A3)
CO4	Build the skill of documenting the process of occupational therapy (evaluation, interventions, progress), under supervision. (C3, P4)
CO5	Develop professional attributes in the clinical areas of orthopaedics, neurological and community settings. (C6, P6, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2	x	x						
CO3						x	x	
CO4					x			
CO5				x			x	

Course Content and Outcomes:

Content	Competencies	Number of Hours
Practice occupational therapy process in the areas of Neuro-rehabilitation, Musculoskeletal rehabilitation and Community rehabilitation, under supervision.		
	1. Develop occupational profile and choose the occupational priorities of clients based on evaluation, under supervision for common orthopaedics and neurological conditions. (C6, P6, A5) 2. Prioritize treatment goals based on problem identification using OTPF level III evaluation format for clients with common orthopaedics and neurological conditions in acute and community settings, under supervision. (C5, P5, A4) 3. Identify the occupational therapy intervention approaches to be used for common orthopaedics and neurological conditions. (C3, P4,A3) 4. Apply occupational therapy interventions, under supervision for clients with common neurological and orthopaedic conditions. (C3, P4, A4) 5. Build the skill of documenting the process of occupational therapy (evaluation, intervention and progress), under supervision. (C3, P4) 6. Develop professional attributes in clinical settings (initiation, observation skill, problem solving, time management, communication skills, self-directed learning, participation in the supervisory process, reflective learning) (C6, P6, A5)	Clinical Discussions (42 hours) Clinical practice (153 hours)

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	--	--
Seminar	--	--
Small group discussion (SGD)	42	84
Self-directed learning (SDL)	--	--
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	153	306
Practical	--	--
Revision	--	--
Assessment	--	--
Total	**195**	**390**

Assessment Methods:	
Formative:	**Summative:**
Viva	End of Posting Exam
Assignments/Presentations	**--**
Clinical assessment (OSCE, OSPE, WBPA)	**--**
Clinical/Practical Log Book	--

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Viva		x	x		
Assignments/Presentations		x	x	x	
Any others: WPBA	x				x
Clinical/Practical Log Book					x
End of Posting Exam	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48. 2. Clinical Format				

SEMESTER - VI

COURSE CODE	:	COURSE TITLE
BST3201	:	Biostatistics and Research Methodology
MED3201	:	General Medicine
OCT3221	:	Occupational Therapy in Orthopaedics and Surgical conditions
OCT3222	:	Occupational Therapy in Neurological, Geriatric and Medical conditions
OCT ****	:	Program Elective- I
OCT3231	:	Clinical Fieldwork- V

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Biostatistics and Research Methodology**
Course Code	**BST3201**
Academic Year	Third Year
Semester	VI
Number of Credits	3
Course Prerequisite	Nil
Course Synopsis	1. To provide necessary foundation on • Introductory level biostatistics • Demography, vital statistics and epidemiology • Survey sampling methods • Fertility, morbidity, and mortality indices 2. To introduce the steps involved in research process

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain characteristics of statistical data, types of variables, scales of measurement, presentation of data, normal distribution. (C2)
CO2	Apply measures of location and variation for statistical data (C3)
CO3	Outline the sources of demographic data and vital statistics, merits and demerits of probability and non-probability sampling techniques. (C2)
CO4	Explain the indices of fertility, morbidity and mortality, Epidemiology, observational study designs (C2)
CO5	Explain the concept of correlation and regression. (C2)
CO6	Summarize the steps involved in a research process (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	X							
CO4		x						
CO5	x							
CO6	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Biostatistics	1. Define biostatistics (C1) 2. Describe the characteristics of statistical data (C2) 3. Explain the role of statistics in health sciences (C2)	2
Variables	1. Distinguish between qualitative & quantitative with	4

Content	Competencies	Number of Hours
	appropriate examples (C2) 2. Distinguish between continuous & discrete variables with appropriate examples (C2) 3. Distinguish between nominal & ordinal variables with appropriate examples (C2)	
Scales of Measurement	1. Describe nominal scale of measurement of variables with appropriate examples (C2) 2. Describe ordinal scale of measurement of variables with appropriate examples (C2) 3. Describe interval scale of measurement of variables with appropriate examples (C2) 4. Describe ratio scale of measurement of variables with appropriate examples (C2)	4
Unit 2:		
Tabular presentation of data	1. Describe the three types of class intervals – inclusive, exclusive and open ended (C2) 2. Explain the concepts of relative and cumulative frequencies (C2) 3. Construct the frequency table (C2)	2
Graphical presentation of data	1. Explain the concepts of Histogram, Frequency Polygon, Frequency Curve (C2) 2. Construct Histogram, Frequency Polygon, Frequency Curve for statistical data (C2)	2
Diagrammatic presentation of data	1. Explain the concepts of Bar diagram and Pie diagram (C2) 2. Construct Bar diagram and Pie diagram for statistical data (C2)	2
Unit 3:		
Measures of Location	1. Explain the concepts of Mean, Median, Mode (C2) 2. Explain the concepts of Quartiles and Percentiles (C2)	2
Unit 4:		
Measures of Variation	3. Describe the concepts of Range, Inter-quartile range, Variance, Standard deviation and Coefficient of variation (C2)	2
Unit 5:		
Sampling	1. Explain sampling and non-sampling error (C2) 2. Define and distinguish probability and non-probability sampling methods (C1) **3.** Explain each sampling technique by stating their merits and demerits (C2)	4
Unit 6:		
Normal Distribution	1. Explain the characteristics of normal distribution (C2) **2.** Compute the area under the normal distribution curve (C3)	2
Skewness and Kurtosis	1. Explain the concept of skewness and describe three types of skewness (C2) **2.** Explain the concept of kurtosis and describe three types of kurtosis (C2)	2

Content	Competencies	Number of Hours
Unit 7:		
Correlation	1. Define correlation (C2) 2. Explain positive and negative correlation with appropriate examples (C2) 3. Explain the Pearson's correlation coefficient and outline its properties (C2) 4. Explain the Spearman's correlation coefficient and outline its properties (C2) 5. Illustrate using scatter plot the different types of correlation (C3)	2
Regression	1. Distinguish between dependent and independent variables. (C2) 2. Explain the simple linear regression model along with the assumptions involved. (C2) 3. Identify the slope and intercept coefficient from the model. (C2) 4. Predict the dependent variable from the model for a given set of independent variables. (C2)	2
Unit 8:		
Demography and Vital statistics	1. Define Demography and Vital statistics (C1) 2. What are the sources of demographic data and vital statistics (C1) 3. Define and distinguish rate, ratio and proportion (C1)	2
Morbidity, mortality and fertility rates	1. Explain prevalence and incidence (C2) **2.** Explain each measure of morbidity, mortality and fertility rates by stating the formula (C2)	4
Unit 9:		
Research	1. Explain sampling and non-sampling error (C2) 2. Define and distinguish probability and non-probability sampling methods (C1) **3.** Explain each sampling technique by stating their merits and demerits (C2)	3
Unit 10:		
Epidemiology	1. Define Epidemiology (C1) 2. Explain the observational study designs (case report, case series, cross-sectional, ecological) (C2)	4

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Assessment	-	-
Total	**45**	**135**
Assessment Methods:		
Formative:	**Summative:**	
Unit Test	Mid Semester/Sessional Exam (Theory)	
	End Semester Exam (Theory)	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester Examination	x	x				
End Semester Exam	x	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. Lwanga SK, Tye CY, Ayeni O. Teaching health statistics: lesson and seminar outlines. World Health Organization, Marketing and Dissemination, 1211 Geneva 27, Switzerland; 1999. 2. Health research methodology: a guide for training in research methods. World Health Organization; 2001. 3. Bonita R, Beaglehole R, Kjellström T. Basic epidemiology. World Health Organization; 2006. 4. Campbell MJ, Swinscow TD. Statistics at square one. John Wiley & Sons; 2011.					
Additional References	1. Degu G, Tessema F. Biostatistics [Internet]. Gondor: University of Gondar; January 2005. Available from: 2. http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_biostat_hss_final.pdf 3. Kebede Y. Epidemiology [Internet]. Gondor: University of Gondar; 2004. Available from: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/env_occupational_health_students/Epidemiology.pdf 4. Degu G, Yigzaw T. Research Methodology [Internet]. Gondor: University of Gondar; 2006. Available from: 5. http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf 6. Morris JN. Uses of epidemiology. Edinburgh, UK: Churchill Livingstone; 1975. 7. Campbell MJ, Machin D, Walters SJ. Medical statistics: a textbook for the health sciences. John Wiley & Sons; 2010. 8. Rao PS, Richard J. An Introduction to Biostatistics: A manual for students in health sciences. Prentice/Hall of India; 1996. **9.** Mahajan BK, Khanal AB. Methods in biostatistics: for medical students and research workers. Jaypee Brothers Medical Publishers; 2010.					

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**General Medicine**
Course Code	**MED3201**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Basic knowledge of anatomy, physiology, biochemistry, pathology, microbiology and pharmacology
Course Synopsis	This module provides the student an opportunity to learn about different medical conditions in the field of general medicine, dermatology and rheumatology, in order to rationalize and apply the knowledge gained about various medical conditions in the clinical setup.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the pathophysiology of various medical conditions (C2)
CO2	Explain the clinical features and management of various medical conditions (C2)
CO3	Outline the clinical assessment of cardiovascular and respiratory systems (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
GENERAL MEDICINE		
Unit 1		
Infections	1. Define infection (C1) 2. List the clinical features of infection (C1) 3. Outline the investigations (C2) 4. Explain the management and complications of bacterial (streptococcus, staphylococcus aureus) and viral (HIV, Hepatitis A, B, C, herpes simplex) infections (C2) 5. Recall the Universal precautions in ICU (Infection control) (C1)	2
Unit 2		
Poisoning	1. Explain causes and stages of organophosphorus poisoning (C2) 2. Recall types of snake bite (C1) 3. List the clinical manifestations and medical management (C1)	1

Content	Competencies	Number of Hours
Unit 3		
Diseases of blood	1. Classify blood disorders (C2) 2. Explain management of Anemia, thalassemia, leukemia, thrombocytopenia, hemophilia and thrombosis (C2)	1
Unit 4		
Nutritional deficiency diseases in adults:	1. Explain the causes, clinical features and management of vitamin deficiencies – B complex, A C and D deficiency (C1)	1
Unit 5		
Endocrine diseases	1. Classify endocrine disorders (C2) 2. List clinical features and management of Hypo and hyper pituitary, thyroid and adrenocortical disease (C2)	1
Unit 6		
Metabolic diseases	1. Define Diabetes Mellitus (C1) 2. Classify Diabetes Mellitus (C2) 3. List the clinical features of Diabetes Mellitus (C2) 4. List down the management of diabetes milletus and complication of diabetes 5. Outline the diagnosis and management of Dyslipidemia and obesity (C1)	2
Unit 7		
Lymph related disorders	1. Define Lymphedema (C1) 2. Outline the etiology of Lymphedema (C2) 3. List the clinical features of Filariasis (C1) 4. Outline the management of lymphadema	1
Unit 8		
Diseases of the digestive system and its management	1. Explain the causes, clinical features and management of Gastro-oesophageal reflux disease (C1) 2. Explain the causes, clinical features and management of Crohn's diseases(C2) 3. Explain the causes, clinical features and management of Jaundice (C2) 4. Outline etiology, clinical features, management and complications of Cirrhosis (C2)	1
RHEUMATOLOGY		
Unit 9		
Rheumatoid arthritis, Felty's Syndrome and Juvenile RA	1. Define Rheumatoid arthritis, perthes disease, Felty's syndrome, and Juvenile RA (C1) 2. Explain the etiology of perthes disease, Rheumatoid arthritis, Felty's syndrome, and Juvenile RA (C2) 3. Outline the clinical features and management of perthes disease, Felty's syndrome, and Juvenile RA (C2)	1

Content	Competencies	Number of Hours
Unit 10		
Systemic Lupus Erythematosus (SLE)	1. Define Systemic Lupus Erythematous (C1) 2. Explain the etiology of Systemic Lupus Erythematous (C2) 3. Outline the clinical features and management of Systemic Lupus Erythematous (C2)	1
Unit 11		
Spondyloarthropathies and Ankylosing Spondylitis	1. Define spondyloarthropathies and Ankylosing Spondylitis (C1) 2. Explain the etiology of Spondyloarthropathies and Ankylosing spondylitis (C2) 3. Outline the clinical features and management of Spondyloarthropathies and Ankylosing spondylitis (C2)	1
Unit 12		
Psoriatic Arthritis, Reiter's Syndrome and Enteropathic Arthritis, Osteoarthritis	1. Define Psoriatic Arthritis, Reiter's Syndrome and Enteropathic Arthritis (C1) 2. Explain the etiology of Psoriatic Arthritis, Reiter's Syndrome and Enteropathic Arthritis (C2) 3. Outline the clinical features and management of Psoriatic Arthritis, Reiter's Syndrome and Enteropathic Arthritis (C2)	1
Unit 13		
Gout and Pseudo gout	1. Define Gout and Psuedo gout (C1) 2. Explain the etiology of gout and pseudogout (C2) 3. Outline the clinical features and management of gout and pseudo gout (C2)	1
Unit 14		
Septic Arthritis, Polymyositis and Dermatomyositis	1. Define Septic Arthritis, Polymyositis and Dermatomyositis (C1) 2. Explain the etiology of Septic Arthritis, Polymyositis and Dermatomyositis (C1) 3. Outline the clinical features and management of Septic Arthritis, Polymyositis and Dermatomyositis (C2)	1
Unit 15		
Sarcoidosis and Sjogren's Syndrome	1. Define Sarcoidosis and Sjogren's Syndrome (C1) 2. Explain the etiology of Sarcoidosis and Sjogren's Syndrome (C2) 3. Outline the clinical features and management of Sarcoidosis and Sjogren's Syndrome (C2)	1
Unit 16		
Calcium Metabolism, Tetany / Osteomalacia / Osteoporosis	1. Define Calcium Metabolism, Tetany / Osteomalacia / Osteoporosis (C1) 2. Explain the etiology of Calcium Metabolism, Tetany / Osteomalacia / Osteoporosis (C2)	1

Content	Competencies	Number of Hours
	3. Outline the clinical features and management of Calcium Metabolism, Tetany / Osteomalacia / Osteoporosis (C2)	
CARDIO-RESPIRATORY CONDITIONS		
Unit 17		
Cardiac Evaluation	1. Explain the clinical assessment of Cardiovascular system(C2) 2. Outline ECG, Echo, Treadmill test and other investigations (C2)	1
Unit 18		
Cardiovascular diseases	1. Explain etiological classification, symptoms, sequel, chest radiograph findings, ECG, Complications, exercise limitations and medical management in case of (C2): • Coronary artery diseases- • Angina and Myocardial infarction • Congestive cardiac failure • Rheumatic fever and its complications • Valvular heart diseases 2. Classify congenital heart diseases (C2) 3. Outline the clinical presentation of common disorders such as acynotic shunts and Tetrology of Fallot (C2)	4
Unit 19		
Hypertension	1. Define hypertension (C1) 2. Classify hypertension (C2) 3. Outline the medical management of hypertension (C2)	1
Unit 20		
Peripheral vascular diseases	1. List the medical management of peripheral vascular diseases, arterial and venous thromboembolism and peripheral arterial obstructive disease (C1)	1
Unit 21		
Medical conditions in critical care	1. Define ARDS, Tetanus, Pulmonary Embolism and Shock (C1) 2. Explain the etiology of ARDS, Tetanus, Pulmonary Embolism and Shock (C2) 3. Outline the clinical features and management of ARDS, Tetanus, Pulmonary Embolism and Shock (C2)	2
DERMATOLOGY		
Unit 22		
Diseases of the Skin Leprosy, Trophic Ulcers, and Psoriasis	1. Define Leprosy, Trophic ulcers and Psoriasis (C1) 2. Explain the etiology of Leprosy, Trophic ulcers and Psoriasis (C2)	1

Content	Competencies	Number of Hours
	3. Outline the clinical features and management of Leprosy, Trophic ulcers and Psoriasis (C2)	
PULMONARY MEDICINE		
Unit 23		
Introduction to Pulmonary diseases	1. Outline the clinical manifestations and clinical assessment of pulmonary diseases (C2)	2
Unit 24		
Investigations in Pulmonology	1. Discuss the Chest radiographs, ABG analysis, PFT and Bronchoscopy (C3)	2
Unit 25		
Infective lung conditions- Pulmonary Tuberculosis, Pneumonia and Lung abscess	1. Define Pulmonary Tuberculosis, Pneumonia and Lung abscess (C1) 2. Explain the etiology of Pulmonary Tuberculosis, Pneumonia and Lung abscess (C2) 3. Outline the clinical features and management of Pulmonary Tuberculosis, Pneumonia and Lung abscess (C2)	2
Unit 26		
Obstructive lung conditions	1. Define Bronchial Asthma, COPD and Bronchiectasis (C1) 2. Explain the etiology of Bronchial Asthma, COPD (C2) 3. Outline the clinical features and management of Pulmonary Tuberculosis, Pneumonia and Lung abscess (C2)	3
Unit 27		
Restrictive lung Diseases-Interstitial Lung Diseases and Pleural Diseases (Pneumothorax, Emphysema and Pleural Effusion)	1. Define Interstitial Lung Diseases and Pleural Diseases (Pneumothorax, Emphysema and Pleural Effusion), chest wall and neuromuscular diseases causing restrictive lung disease (C1) 2. Explain the etiology of Interstitial Lung Diseases and Pleural Diseases (Pneumothorax, Emphysema and Pleural Effusion) chest wall and neuromuscular diseases causing restrictive lung disease (C2) 3. Outline the clinical features and management of Interstitial Lung Diseases and Pleural Diseases (Pneumothorax, Emphysema and Pleural Effusion), chest wall and neuromuscular diseases causing restrictive lung disease (C2)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar		
Practical		

Revision							
Assessment							
Total	**39**			**117**			
Assessment Methods:							
Formative:	**Summative:**						
Quiz	Mid Semester Examination (Theory)						
	End Semester Examination (Theory)						
Mapping of Assessment with COs:							
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1		x	x	x			
End Semester Exam		x	x	x			
Feedback Process:	Mid-Semester Feedback End-Semester Feedback						
Main Reference:	1. Mathew KG & Aggarwal P. Medicine Pre Manual For Undergraduates K. India: Elsevier; 2015. 2. Ralston S, Penman I, Strachan W & Hobson R. Davidson‟s Principles and practice of Medicine 22nd edition. Churchill Livingstone/Elsevier; 2014 3. Golwalla A, Golwalla S & Nadkar M. Golwalla's Medicine For Students. India: Jaypee Brothers Medical Publishers. 2017						

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy in Orthopaedics and Surgical Conditions**
Course Code	**OCT3221**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Assessments in Occupational Therapy -I & II, Biomechanics and Kinesiology, Activities and Occupations, Enabling Occupations, Occupational Therapy Interventions, Orthopaedics
Course Synopsis	1. This course describes occupational dysfunctions that occur due to orthopaedic and surgical conditions. 2. It further describes the occupational therapy evaluations and interventions for people with common orthopaedic and surgical conditions. 3. It also provides opportunities for students to practice skills required for occupational therapy evaluation and interventions for people with common orthopaedic and surgical conditions.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain occupational dysfunctions for common orthopaedic and surgical conditions including traumatic and non-traumatic conditions. (C2)
CO2	Explain the application of the occupational therapy process for people with common orthopaedic and surgical conditions (C5)
CO3	Develop skills required for occupational therapy evaluation and interventions for common orthopaedic and surgical conditions.(C5,P4,A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x					x		
CO2	x	x						
CO3		x		x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit I: Occupational therapy interventions for orthopaedic conditions		
1. Introduction to occupational therapy in Orthopaedic Conditions	1. Explain the purpose and role of occupational therapy in common orthopaedic conditions (C2)	29
2. Fractures and occupational therapy management	1 Explain functional problems in clients following fractures after orthopaedic management (non-operative and operative),	

Content	Competencies	Number of Hours
	including specific precautions to be considered during fracture healing and its complications (C2) 2 Explain occupational therapy intervention goals for specific fracture conditions, based on occupational profile and evaluation results (C5) 3 Explain appropriate occupational therapy interventions for upper and lower limb fractures that addresses areas of occupational performance (C5). 4 Select appropriate post-fracture mobilization techniques for upper and lower limb fractures (C3,P3,A3) 5 Apply mobilization techniques for remediating joint function using a model (C3, P3, A3). 6 Choose strengthening program to restore muscle strength to perform areas of occupations using affected limb (C5, P3,A3) 7. Analyse appropriate weight bearing restrictions (NWB, TDWB, PWB, and FWB) for post-fracture conditions (C4, P3, A3).	
3. Hand Injury and occupational therapy management	1 Explain hand injuries involving tendon, nerve and bone, including the stages of healing. (C2). 2 Explain the occupational therapy process for people in different phases of recovery from hand injury conditions (C5). 3. Explain occupational therapy interventions to achieve the client's occupation based performance goals that includes post-operative mobilization and preparatory methods for specific hand injury (C5). 4. Select appropriate mobilization techniques used for hand injury conditions including post-operative care on model (C5, P3, A3). 5. Apply occupational therapy interventions to restore hand grip and hand function skills in client's areas of occupations (C3,P3,A3)	
4. Spinal cord injury and occupational therapy management	1 Explain physical and functional problems following spinal cord affectations including injury types, clinical syndromes and its complications (C2). 2 Explain occupational therapy process used in different phases of recovery in spinal cord injury (C5). 3 Explain occupational therapy interventions during acute, active and discharge phases of rehabilitation process based on level of injury and specific to paraplegia and quadriplegia (C5).	

Content	Competencies	Number of Hours
	4 Apply appropriate bed positioning methods and bed mobility procedures for acute phase management using case simulation (C3,P3,A3) 5 Apply appropriate procedures to manage pressure sore and postural hypotension during active rehabilitation phase using case simulation (C3,P4,A3) 6 Apply wheelchair mobility procedures for paraplegia and quadriplegia using a case simulation (C3, P4, A3). 7 Apply transfer techniques for paraplegics and quadriplegics on a model (C3,P4,A3)	
5. Arthritic Conditions and occupational therapy management	1. Compare the disease process of rheumatoid and osteoarthritis conditions, and its impact on occupational functioning including physical, psychosocial and functional status. (C5) 2 Explain occupational therapy process for clients with arthritic conditions (C5). 3 Explain occupational therapy interventions for clients with arthritic conditions, including physical adjunct modalities, splinting, adaptive devices, client education and precautions (C5). 4 Apply mobilization techniques to restore joint mobility and muscle strength for clients with arthritic conditions using a model (C3,P4, A3). 5 Apply therapeutic activities to restore hand function skills for clients with arthritic conditions, using a case simulation (C3,P3,A3) 6 Apply appropriate joint protection techniques during ADL tasks for clients with arthritic conditions, using a case simulation (C3,P4,A3) 7 Apply work simplification and energy conservation techniques for clients with arthritic conditions using a case simulation (C3,P4,A3)	
6. Low back pain and occupational therapy management	1 Explain low back pain and the occupational therapy process used in clients with low back pain (C5) 2 Explain occupational therapy interventions used for clients to engage in their occupation that includes back care techniques, body mechanics during functional tasks, adaptation and modifications at work and home environment (C5) 3 Demonstrate back stabilization exercises, William flexion and Mc Kenzie extension exercises on model (C2,P4,A3) 4. Apply body mechanics and back care	

Content	Competencies	Number of Hours
	techniques when performing occupations, using a case simulation (C3,P4,A3)	
Unit II: Occupational therapy interventions for surgical conditions		
7. Introduction to occupational therapy in surgical conditions 8. Arthroplasties and occupational therapy management	1 Explain purpose and role of occupational therapy in common surgical conditions (C2) 1 Explain functional problems following hip, knee and shoulder arthroplasties including precautions and post-operative complications (C5) 2 Decide occupational therapy interventions for specific arthroplasties that address all areas of occupational performance (C5) 3 Explain appropriate post-operative care for hip, knee and shoulder arthroplasties on model (C5,P3,A3) 4 Apply weight bearing methods, adaptive devices, and precautionary measures for arthroplasty conditions using a case simulation (C3,P3,A3)	23
9. Onco-surgical conditions occupational therapy management	1 Explain common physical dysfunction issues resulting from stages of cancer and the occupational therapy process for the same (C5) 2 Explain occupational therapy interventions for onco-surgical conditions including, post-operative care, remedial and compensatory methods (C5)	
10. Amputation and occupational therapy management	1 Explain the impact of the residual limb status based on level of amputation and complications following surgery.(C2) 2 Explain pre-prosthetic, prosthetic phase evaluation, check outs for upper and lower limb prostheses and intervention goals based on occupational profile and evaluation.(C5) 3 Decide occupational therapy interventions to enhance skills in functioning with the appropriate prosthesis that includes stump care, donning and doffing, wearing schedule, control training with prostheses in areas of occupation and also functional and prehension training. (C5) 4 Apply stump care techniques on a model (C3,P4,A3) 5 Apply stump desensitization procedures on a model (C3,P4,A3) 6 Select appropriate upper limb prosthesis and do the check out with a case example (C3,P4,A3) 7 Apply pre-prosthetic and prosthetic control training with a case simulation (C3,P4,A3)	

Content	Competencies	Number of Hours
11. Burns and occupational therapy management	1 Explain features of burn injury type, clinical techniques to determine wound depth and severity, and phases of recovery following burns (C2) 2 Explain the occupational therapy process for clients with burns. (C5) 3. Explain occupational therapy interventions during acute phase and rehabilitation phase following burns (C5) 4. Demonstrate positioning methods for clients with burns during acute phase on model (C2, P3, A3). 5. Apply appropriate splints used in preventing contractures and deformities for burn conditions with a case stimulation (C3,P4,A3) 6. Apply appropriate compression garments for burns conditions with a case simulation (C3,P4,A3) 7. Apply scar mobilization techniques for burns scars with a case example (C3,P4,A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	--	--
Self-directed learning (SDL)	--	--
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	26	78
Revision	-	-
Assessment	-	-
Total	**52**	**156**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	--

Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Mid SemesterExamination	x	x	
Quiz / Viva	x	x	x
Assignments/Presentations	x	x	
End Semester Exam	x	X	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Radomski MV, Trombly LCA. Occupational Therapy for Physical Dysfunction. 7th eds. Philadelphia: Wolters Kluwer Health Inc. (B); 2014 2. Pendleton HM, Schultz KW. Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction. 7th eds. St. Louis: Elsevier (B); 2013
Additional References	1. Hopkins HL, Smith HD. Willard and Spackman's Occupational Therapy. 8th eds. Philadelphia: J B Lippincott Company; 1993. 2. Turner A. Occupational Therapy and Physical Dysfunction: Principles Skills and Practice. 4th eds. Edinburg: Churchill Livingstone; 1997.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy in Neurological, Geriatric and Medical conditions**
Course Code	**OCT3222**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Basic Competencies for Occupational Therapists-I & II, Assessments in Occupational Therapy-I & II, Activities and Occupations, Enabling Occupations, Occupational Therapy Interventions, Neurosciences and Paediatrics
Course Synopsis	1. This course describes frames of reference commonly used in occupational therapy for neurological, medical and geriatric conditions. 2. It also describes the impact of common neurological, medical and geriatric conditions on client's participation in occupations. 3. It also discusses the application of occupational therapy interventions for common neurological, medical and geriatric conditions

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain frames of reference commonly used in occupational therapy assessment and management for neurological, medical and geriatric conditions. (C2)
CO2	Explain the occupational dysfunctions for common neurological, medical and geriatric conditions. (C5)
CO3	Justify occupational therapy evaluation and treatment for common neurological, medical and geriatric conditions. (C5, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2		x						
CO3		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Frames of reference used in occupational therapy assessment and intervention for common neurological, geriatric and medical conditions		
Neurodevelopmental Therapy (NDT)	1. Explain the principles of NDT (C2) 2.Explain facilitation and inhibition techniques of NDT (C2) 3.Apply NDT based evaluation on model (C3, P3, A3) 4.Apply NDT based weight bearing techniques on	22

Content	Competencies	Number of Hours
	model (C3, P3, A3) 5. Apply NDT based reflex inhibiting pattern on model (C3, P3, A3) 6.Apply NDT based positioning techniques on model (C3, P3, A3)	
Proprioceptive Neuromuscular Facilitation (PNF)	1. Explain the principles of PNF (C2) 2. Explain the evaluation based on PNF (C2) 3. Explain the treatment techniques based on PNF (C2) 5.Apply PNF based diagonal patterns and total patterns on model (C3, P3, A3) 6. Apply PNF based treatment techniques (directed towards agonist and antagonist) on model (C3, P3, A3) 7. Apply PNF based treatment techniques (relaxation) on model (C3, P3, A3)	
Management of cognitive & perceptual deficits	1.Explain the occupational therapy management for deficits in cognitive components (awareness, attention, memory and executive function) that affect participation in occupations (C2) 2. Explain the occupational therapy management for perceptual deficits (visual and visual spatial perception) that affect participation in occupations (C2) 3. Explain the occupational therapy management for perceptual deficits (tactile and motor perception) that affects participation in occupations (C2) 4. Apply occupational therapy strategies (remedial and compensatory) for cognitive deficits such as awareness and attention on model (C3, P3, A3) 5. Apply occupational therapy strategies (remedial and compensatory) for cognitive deficits such as memory and executive function on model (C3, P3, A3) 6. Apply occupational therapy strategies (remedial and compensatory) for deficit in visual perception on model (C3, P3, A3) 7. Apply occupational therapy strategies (remedial and compensatory) for deficit in visual-spatial perception on model (C3, P3, A3) 8. Apply occupational therapy strategies (remedial and compensatory) for deficit in tactile perception on model (C3, P3, A3) 9. Apply occupational therapy strategies (remedial and compensatory) for deficit in motor perception on model (C3, P3, A3)	
Unit 2: Occupational therapy assessment and management for common Neurological conditions		
Stroke	1. Explain occupational therapy evaluation process for clients with stroke (C5)	20

Content	Competencies	Number of Hours
	2. Explain the role of occupational therapy for functional limitations (occupations in seated and standing) (C5) 3. Explain the role of occupational therapy for functional limitations secondary to cognitive perceptual dysfunction (C5) 4. Explain the role of occupational therapy for functional limitations secondary to upper extremity dysfunction (C5) 5.Select bed positioning techniques for hemiplegia (supine, lying on unaffected and affected side) on model (C5, P5,A3) 6. Select shoulder care strategies for hemiplegia on model (C5, P5, A3) 7. Select compensatory strategies for hemiplegia (feeding, grooming, toileting and bathing) on model (C5, P5, A3) 8. Select compensatory strategies for hemiplegia (dressing) on model (C5, P5, A3)	
Traumatic brain injury (TBI)	1.Explain occupational therapy evaluation methods for lower, intermediate and higher-level of functioning for individuals with TBI (C5) 2. Explain occupational therapy intervention methods for lower level of functioning for individuals following TBI (C5) 3.Explain occupational therapy intervention methods for intermediate level of functioning individuals following TBI (C5) 4.Explain occupational therapy intervention methods for high level functioning individuals following TBI (C5) 5. Analyse the levels of consciousness using Glasgow Coma Scale and Rancho Los Amigos Scale of Cognitive Functioning on model (C4, P4, A3) 6.Justify the use of sensory stimulation activities for improving level of arousal on model (C4, P4, A3)	
Neurodegenerative diseases	1.Explain the occupational dysfunctions that occur due to common neurodegenerative diseases (multiple sclerosis, amyotrophic lateral sclerosis, Guillain Barre syndrome) (C5) 2.Explain the occupational therapy assessments for neurodegenerative diseases (C5) 3. Justify occupational therapy intervention for multiple sclerosis and amyotrophic lateral sclerosis (C5) 4. Justify occupational therapy intervention for Guillain Barre syndrome (C5) 5.Select energy conservation techniques to manage fatigue during basic daily living skills for clients	

Content	Competencies	Number of Hours
	with neurodegenerative diseases on model (C5, P4 ,A3) 6.Select energy conservation techniques to manage fatigue during instrumental activities of daily living for clients with neurodegenerative diseases on model (C5, P4, A3)	
Unit-3: Occupational therapy assessment and management for common medical and geriatric conditions		
Occupational therapy in Cardiopulmonary Dysfunction	1.Explain the cardiovascular disability assessment and phases of cardiac rehabilitation (C2) 2.Explain the pulmonary assessment and pulmonary rehabilitation (C2) 3. Select breathing techniques such as pursed-lip and diaphragmatic breathing for people with cardiopulmonary dysfunction using case simulations (C5, P3, A3) 4.Choose work simplification techniques for managing low endurance during daily living skills on model (C5, P4, A3)	10
Occupational therapy for health conditions in older adults	1.Outline the process of aging and role of occupational therapy in older adults (C2) 2.Explain the etiopathology, clinical features, occupational therapy assessment, goal setting and interventions for Parkinson's disease (C5) 3.Explain the pathophysiology, clinical features, occupational therapy evaluation and intervention for Alzheimer's disease (C5) 4.Justify the use of postural flexibility exercises for elderly using a model (C5, P4, A3) 5.Justify the use of relaxation techniques for elderly using a model (C5, P4, A3) 6.Choose fall prevention strategies for elderly using a model (C5, P4, A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Clinic	-	-
Practical	26	78
Revision	-	-
Assessment	-	-
Total	**52**	**156**
Assessment Methods:		
Formative:	**Summative:**	
Unit Test	Mid Semester/Sessional Exam (Theory)	
Quiz	End Semester Exam (Theory)	

Assignments/Presentations	--			
Mapping of Assessment with COs:				
Nature of Assessment		**CO1**	**CO2**	**CO3**
Mid Semester / Sessional Examination 1		x	x	
Quiz / Viva		x	x	x
Assignments/Presentations		x	x	x
End Semester Exam		x	x	x
Feedback Process:		Mid-Semester Feedback		
		End-Semester Feedback		
Main Reference:	1. Radomski MV, Trombly Latham CA, editors. Occupational therapy for physical dysfunction, seventh edition, Philadelphia: Lippincott Williams & Wilkins; 2014. 2. Pendleton HM, Krohn WS, editors. Pedretti's Occupational Therapy Practice skills for physical Dysfunction, 7th edition, Elsevier (B). St Louis, 2013.			
Additional References	1. Schell BA, Gillen G, Scaffa M, Cohn ES, editors. Willard and Spackman's occupational therapy, 12th ed. Philadelphia: Lippincott Williams & Wilkins; 2014 2. Umphred D, editor. Umphred's Neurological Rehabilitation, 6th ed. St. Louis: Elseiver; 2013.			

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Orthotics in Occupational Therapy**
Course Code	**OCT3241**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Anatomy I & II, Biomechanics and Kinesiology, Orthopaedics, Enabling Occupations and Occupational Therapy Interventions
Course Synopsis	1. This course describes the principles and purposes of the orthoses. 2. This also describes the different types of upper extremity, lower extremity and spinal orthoses in terms of their mechanism of action, indications and precautions. 3. It further explains the role of orthoses in Occupational therapy interventions for common musculoskeletal conditions.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the principles and purposes of the orthoses. (C2)
CO2	Explain the different types of upper extremity, lower extremity and spinal orthoses. (C5)
CO3	Explain the mechanism of action, indications, precautions and modifications of different orthoses. (C5)
CO4	Justify the use of orthoses in occupational therapy interventions. (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x	x					
CO4					x	x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Introduction to orthoses: In this unit, principles of orthoses and the various purposes they are used for will be explained.		
Introduction to orthoses	1. Define orthoses. (C1) 2. Classify the upper extremity orthoses. (C2) 3. Explain the anatomical principles used in orthoses. (C5) 4. Explain the biomechanical principles used in orthoses. (C5) 5. Identify the purposes of orthoses for four common musculoskeletal conditions. (C3)	4

Content	Competencies	Number of Hours
Unit 2: Upper extremity orthoses: In this unit, selection, purpose and application for enhancing occupational performance of upper extremity orthoses will be explained.		
Upper extremity orthoses	1. Explain the types and indications of shoulder orthoses. (C2) 2. Justify the use of different shoulder orthoses to support a painful joint. (C5) 3. Explain the types and indications of elbow orthoses. (C2) 4. Explain the types and indications of wrist-hand-finger orthoses. (C5) 5. Explain the types and indications of hand-finger and finger-thumb orthoses. (C5) 6. Justify the use of dynamic wrist-hand-finger orthoses to enhance function. (C5) 7. Explain the components, mechanism of action of Mobile Arm Support (MAS).(C2) 8. Explain the client & caregiver education and the use of Mobile Arm Support (MAS) in performing ADL tasks. (C5) 9. Analyse the use of Mobile Arm Support (MAS) in any two self-care tasks. (C4) 10. Analyse the use of Mobile Arm Support (MAS) in any two tasks of formal education. (C4)	10
Unit 3: Lower extremity orthoses: In this unit, the lower extremity orthoses will be explained for their classification, components, modifications and application in lower extremity rehabilitation.		
Lower extremity orthoses	1. Explain the components and purposes of lower extremity orthoses. (C2) 2. Explain with examples the types of shoe in lower extremity orthosis. (C2) 3. Explain different shoe modifications in lower extremity orthoses. (C2) 4. Justify the use of shoe modifications in common musculoskeletal conditions of lower extremity. (C5) 5. Explain the components, indications and precautions for the Foot Orthosis. (C2) 6. Explain the components of the Ankle Foot Orthosis (AFO). (C2) 7. Explain the indication and precautions for the Ankle-Foot orthoses (AFO). (C5) 8. Explain the use of AFO in Equinovarus deformity. (C2) 9. Explain the components of the Knee-Ankle-Foot orthoses (KAFO). (C2) 10. Explain the indication and precautions for the Knee-Ankle-Foot Orthosis (HKAFO). (C5)	10
Unit 4: Spinal orthoses: In this unit, the different types of spinal orthoses will be explained in terms of their purpose, indications and precautions to be taken.		
Spinal orthoses	1. Explain the different categories and common indications of spinal orthoses. (C2) 2. Explain the mechanism of action of spinal orthoses. (C5) 3.Contrast between different categories of spinal orthosis	15

Content	Competencies	Number of Hours
	based on their indications.(C4) 4. Explain types, mechanism of action, indications and precautions of Cervical Orthoses. (C2) 5. Contrast between different types of cervical orthoses based on their indications and precautions. (C4) 6. Explain types and mechanism of action of Cervico-thoracic Orthoses. (C2) 7. Explain the indications and precautions of different types of Cervico-thoracic orthoses. (C2) 8. Differentiate different types of Cervico-thoracic orthoses based on their indications. (C4) 9. Explain types and mechanism of action of Thoraco-lumbo-sacral orthoses. (C5) 10. Explain the indications and precautions for the Thoraco-lumbo-sacral orthoses (TLSO). (C2) 11. Differentiate between different types of Thoraco-lumbo-sacral orthoses based on their mechanism of action. (C4) 12. Explain the types and mechanism of action of Lumbo-sacral orthoses. (C5) 13. Explain the indications and precautions for Lumbo-sacral orthoses. (C5) 14. Justify the use of spinal orthoses to promote back care in work rehabilitation. (C5) 15. Justify the use of spinal orthoses to promote back care in low back pain patients during functional mobility. (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	4	12
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	6	18
Case Based Learning (CBL)	3	9
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**
Assessment Methods:		
Formative:	**Summative:**	
Unit Test	Mid Semester/Sessional Exam (Theory)	
Quiz	End Semester Exam (Theory)	
Assignments/ Presentations	--	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester	x	x		
Quiz	x	x	x	x
Assignments/ Presentations	x	x	x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1.Bruce MG, Nicolas EW, Lawrence RR, Delisa's Physical Medicine and Rehabilitation : Principles and Practice, 5th ed. Lippincott Williams & Wilkins: US; 2013 2. Radomski MV, Trombly CA. Occupational Therapy for Physical Dysfunction. 6th ed. Philadelphia : Lippincott Williams & Wilkins; 2010
Additional References	1. Heidi MP, Winifred SK. Pedretti's Occupational Therapy Practice Skill for Physical Dysfunction. 7th ed. St Louis: Mosby/Elsevier; 2013

Manipal College of Health Professions	
Name of the Department	Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Ageing and Occupational Therapy**
Course Code	**OCT3242**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Anatomy, Development Across the Lifespan, Occupational Therapy Interventions and Enabling Occupations
Course Synopsis	1. It explains terms, concepts and theories related to aging and elderly 2. It discusses aging in the Indian context. 3. It describes age-related changes and its impact on participation 4.It describes the role of occupational therapy in elder care

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the basic terms, concepts and theories related to aging and elderly (C2)
CO2	Identify ageism in self and others (C3)
CO3	Explain healthy aging and strategies for the same (C2)
CO4	Discuss factors influencing ageing and elderly persons in India (C2)
CO5	Identify age-related changes and their impact on participation of older adults (C3)
CO6	Plan occupational therapy interventions for older adults (C6)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2				x				
CO3	x							
CO4						x		x
CO5		x				x		
CO6						x	x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Aging and the elderly		
Introduction to essential terms and concepts	• Explain essential terms such as aging, older adult, geriatrics and gerontology (C2) • Explain the theories of aging: biological, psychosocial and bio-psychosocial. (C2) • Explain implications of the theories of aging to occupational therapy practice (C2)	15

Content	Competencies	Number of Hours
The social context of aging	• Identify ageist attitudes, stereotypes and myths (C3) • Identify supportive and hindering aspects of the socio-cultural context in provided case studies (C3) • Interpret importance of considering the socio-cultural context of elderly in occupational therapy practice (C2)	
Aging and Health	• Explain demographic transitions, population ageing and international efforts to address the same (C2) • Explain the challenges and need for a public-health approach to address population ageing (C2)	
Healthy Aging	• Explain health aging proposed by the World Health Organization (C3) • Explain the public-health framework for healthy ageing (C3)	
Elderly persons in India	• Examine population ageing in the Indian context, salient issues, and ongoing initiatives to address the same (C4) • Discuss scope of occupational therapy for older adults in the Indian context (C6)	
Unit 2: Occupational Therapy for Older adults		
Role of occupational therapy in elder care	• Explain the role of occupational therapy for elderly in different settings (C2)	24
The ageing body	• Identify age-related changes and the need for occupational therapists to consider body functions and structures. (C3)	
Supporting activity and participation in elderly	• Identify occupational therapy interventions for various domains of activity and participation (C3)	
Occupational Therapy interventions for elderly	• Explain occupational therapy interventions with an emphasis on fall prevention strategies, environmental modifications, assistive technology and caregiver education (C2) • Determine appropriate occupational therapy interventions for older adults in provided case studies (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	--	--
Small group discussion (SGD)	6	18
Self-directed learning (SDL)	2	6
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	5	15

Clinic	--	--
Practical	--	--
Revision	--	--
Assessment	--	--
Total	**39**	**117**

Assessment Methods:

Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x	x			
Quiz / Viva					x	
Assignments/Presentations		x		x	x	x
End Semester Exam	x	x	x	x	x	x

Feedback Process:	**Mid-Semester Feedback**
	End-Semester Feedback
Main Reference:	1. Atwal A, McIntyre A (Editors). Occupational therapy and older people. 2nd edition. West Sussex: Wiley-Blackwell;2013 2. World Health Organization (WHO). World report on ageing and health. Geneva: WHO;2015 3. Schell BA, Gillen G, Scaffa M, Cohn ES. Willard and Spackman's occupational therapy. 12th ed. Philadelphia: Lippincott Williams and Wilkins; 2013
Additional References	1. Dziechciaż M, Filip R. Biological psychological and social determinants of old age: Bio-psycho-social aspects of human aging. Annals of Agricultural and Environmental Medicine 2014, 21(4): 835–838. 2. Agarwal A, Lubet A, Mitgang E, Mohanty S, Bloom DE. Population Aging in India: Facts, Issues, and Options. IZA DP No. 10162. August 2016. Available at http://ftp.iza.org/dp10162.pdf 3. Canadian Association of Occupational Therapists. CAOT Position Statement: Aging in Place 2019. Available at https://www.caot.ca/document/3708/O%20-%20OT%20and%20Older%20Adults.pdf

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork-V**
Course Code	**OCT3231**
Academic Year	Third year
Semester	VI
Number of Credits	5
Course Prerequisite	Assessments in Occupational Therapy- I & II, Basic Competencies for Occupational Therapists- I & II, Activities and Occupations, Enabling Occupations, Occupational Therapy Interventions, Clinical Fieldwork-I, II, III & IV.
Course Synopsis	1. This course provides opportunities for the students to evaluate clients and/or caregivers and establish treatment goals, under supervision in the areas of orthopaedic, neurologic and community settings. 2. It encourages students to practice in a client-centered manner through collaboration with clients and/or caregivers for planning and implementing occupational therapy interventions. 3. It also facilitates evidence-based practice in planning and implementing occupational therapy interventions, under supervision for common neurologic and orthopaedic conditions in acute and community settings. 4. It further provides an opportunity for students to practice documentation of occupational therapy process, under supervision for enhancing evidence based practice.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Evaluate the clients and/ or caregivers to identify the prioritized occupations, under supervision for common orthopaedic and neurological conditions in acute and community settings. (C5, P5, A5)
CO2	Formulate treatment goals and plan intervention techniques under supervision in collaboration with clients and/or caregivers for common orthopedic and neurological conditions in acute and community settings. (C6, P6, A5)
CO3	Develop skills to implement intervention techniques, under supervision for clients with common orthopedics and neurological conditions in acute and community settings. (C6, P6, A5)
CO4	Develop skills to document the process of occupational therapy (evaluation, interventions, progress), under supervision. (C6, P6)
CO5	Develop professional attributes in the clinical areas of orthopaedics, neurological and community settings. (C6, P6, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2		x		x				
CO3						x	x	
CO4						x		
CO5							x	

Course Content and Outcomes:

Content	Competencies	Number of Hours
Practice occupational therapy process in the areas of Neuro-rehabilitation, Musculoskeletal rehabilitation and Community rehabilitation, under supervision.		
	1. Evaluate the clients to identify the prioritized occupations, under supervision for common orthopaedics and neurological conditions. (C5, P6, A5) 2. Formulate treatment goals based on problem identification using OTPF level III evaluation format for clients with common orthopaedics and neurological conditions in acute and community settings, under supervision. (C6, P6, A5) 3. Plan occupational therapy intervention techniques, under supervision for clients with common orthopaedics and neurological conditions (C6, P6, A5) 4. Develop skills to implement occupational therapy interventions, under supervision for clients with common neurological and orthopaedic conditions. (C6, P6, A5) 5. Build the skill of documenting the process of occupational therapy (evaluation, intervention and progress), under supervision. (C6, P6) 6. Develop professional attributes in clinical settings (initiation, observation skill, problem solving, time management, communication skills, self-directed learning, participation in the supervisory process, reflective learning) (C6, P6, A5)	Clinical Discussions (42 hours) Clinical practice (153 hours)

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	--	--
Seminar	--	--
Small group discussion (SGD)	42	84
Self-directed learning (SDL)	--	--
Case Based Learning (CBL)	--	--
Clinic	153	306
Total	**195**	**390**

Assessment Methods:	
Formative:	**Summative:**
Viva	End of Posting Exam
Assignments/Presentations	End- Semester Exam (Practical)
Clinical assessment (OSCE, OSPE, WBPA)	--
Clinical/Practical Log Book	--

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Viva		x	x		
Assignments/Presentations	x	x	x	x	
Any others: WPBA	x				x
Clinical/Practical Log Book					x
End of Posting Exam	x	x	x	x	x
End- Semester Exam (Practical)	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J Occup Ther. 2014 Apr; 68 (Suppl. 1): S1-S48. 2. Clinical Format

SEMESTER - VII

COURSE CODE	:	COURSE TITLE
SUR4101	:	General Surgery
CMS4102	:	Community Medicine and Sociology
OCT4101	:	Occupational Therapy Practice Issues
OCT4102	:	Occupational Therapy in Community Practice
OCT4103	:	Evidence Based Practice - I
OCT4131	:	Clinical Fieldwork - VI

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**General Surgery**
Course Code	**SUR4101**
Academic Year	Fourth
Semester	VII
Number of Credits	3
Course Prerequisite	Knowledge of Anatomy, physiology, pathology and biochemistry
Course Synopsis	The course is intended to provide knowledge about 1. Various surgical procedures related to common general conditions, conditions such as cardiothoracic, vascular, ENT, ophthalmic, cancers and plastic surgery 2. Management of these surgical conditions – Conservative and surgical management 3. Common and specific complications arising due to these surgeries and their prevention and further management

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the common indications and lists down the common investigations used for the surgical procedures (C2)
CO2	Explain the surgical management of common surgical conditions and post-surgical care (C2)
CO3	Explain the complications of common surgical procedures (C2)
CO4	Outline the prevention strategies and precautions to be taken for common surgical complications (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
GENERAL SURGERY		
Unit 1:		
Effects of Anesthesia on body systems (Emphasizing on Cardiopulmonary and Metabolic systems)	1. Define Anaesthesia (C1) 2. Classify types of Anaesthesia (C2) **3.** Explain the effects of anaesthesia on different body systems with emphasis on cardiopulmonary and metabolic system (C2)	1

Content	Competencies	Number of Hours
Unit 2:		
Introduction to Blood Transfusion	1. Define blood transfusion(C1) 2. Outline the types of blood products used in blood transfusion (C2) 3. List the indications and contraindications for blood transfusions (C1) 4. List down the precautions taken during blood transfusion (C1) 5. Explain the complications of blood transfusion (C2)	1
Unit 3:		
Wound Management	1. Explain different types of wounds (C2) 2. Summarize the stages of Wound Healing (C2) 3. What are surgical Sinuses and Trophic ulcers (C1) 4. Explain gangrene (C2) 5. Describe the principles of Treatment and Methods of Wound Management (C2)	2
Unit 4:		
General Surgical procedures	1. Describe the incisions used in general surgery including abdominal surgery and amputations (C1) 2. List the indications for common general surgical procedures (C1) 3. List down the diagnostic procedures used in general surgical procedures (C1) 4. Summarize the general surgical procedures (muscles cut/muscles split, drains used) (C2) 5. Outline immediate and late complications of general surgery (Hemorrhage, shock, fluid and electrolyte imbalance, pulmonary system, cardiovascular system, musculoskeletal, metabolic system related complications and complications to specific general surgery) (C2) 6. Explain amputation care (C2) 7. Explain the management of Hernia (C2) 8. Explain colostomy care (C2)	5
Unit 5		
Hemorrhoids, incontinence and rectal prolapse	1. Explain the causes of hemorrhoids, incontinence and rectal prolapse (C2) 2. List down the investigations used for the diagnosis (C1) 3. Outline the surgical procedures for hemorrhoids, incontinence and rectal prolapse (C2)	1
ENT		
Unit 6		
Sinusitis and infections of parotid glands	1. List down the causes of sinusitis and parotid gland infections (C1) 2. List down the symptoms of sinusitis and parotid	1

Content	Competencies	Number of Hours
	gland infections (C1) 3. List down the investigations used for the diagnosis (C1) 4. Outline the surgical procedures for sinusitis and parotid gland infections (C2)	
Unit 7		
Otitis media	1. Define Otitis Media (C1) 2. List down the causes of Otitis media (C1) 3. Classify types of Otitis media (C2) 4. List down the symptoms of Otitis media (C1) 5. List down the investigations used for the diagnosis (C1) 6. Outline the management of Otitis media (C2)	1
Unit 8		
Benign paroxysmal positional vertigo and vestibular dysfunction	1. Define BPPV (C1) 2. Explain the pathophysiology of BPPV (C2) 3. Explain management of BPPV (C2) 4. Classify vestibular dysfunction (C2) 5. Explain the causes of various vestibular dysfunction and their types (C2) 6. List down the investigations used for the diagnosis (C1) 7. Explain the management of vestibular dysfunction (C2)	2
Unit 9		
Tracheostomy	1. Describe tracheostomy (C2) 2. List down the indications for tracheostomy (C1) 3. List down the surgical procedure of tracheostomy (C1) 4. Explain tracheostomy care (C2) 5. Explain the complications of tracheostomy (C2) 6. Explain decanulation (C2) 7. List down the indications for decanulation (C1)	1
OPHTHALMOLOGY		
Unit 10		
Conditions affecting visual acuity	1. List down the conditions affecting visual acuity (C1) 2. List down the causes of visual acuity (C1) 3. Explain the pathophysiology of conditions causing visual acuity (C2) 4. Explain the management of conditions affecting visual acuity (C2)	2
Unit 11		
Common Ophthalmic Surgeries	1. Outline common ophthalmic surgeries (C2)	1
Unit 12		
Visual Field and Refraction Testing	1. Explain various visual field testing (C2) 2. Explain refraction testing in adults and children	1

Content	Competencies	Number of Hours
	(C2)	
CARDIOTHORACIC SURGERY		
Unit 13		
Overview of investigations and diagnostic procedures	1. Lists the various investigations commonly used in the preoperative work up for a patient undergoing elective and emergency cardiothoracic & vascular surgery (C1) 2. Recalls the various diagnostic procedures that are performed (both invasive and minimally invasive) (C1) 3. Recalls various indications for emergency cardiothoracic and vascular surgery (C1)	1
Unit 14		
Chest Trauma and Intercostal drains	1. Recalls the various trauma that can occur to the chest wall (lung contusion, haemothorax, penumothorax, rib fracture and flail chest) and its management (C1) 2. Explains the indications, insertion, functioning, care and precautions of the intercostal drain (C2)	2
Unit 15		
Pulmonary surgeries	1. Lists the various indications and approaches (traditional, minimally invasive and video assisted) for pulmonary surgery (C1) 2. Describes the various thoracic incisions and the related complications (C2) 3. Explains the procedure and recalls the complications specific to various procedure like lung resections, pneumonectomy, pleural resection and diaphragm repair (C2)	2
Unit 16		
Cardiac surgeries	1. Lists the various indications and approaches (traditional, minimally invasive, robotic) for cardiac surgery in both the adult and child (C1) 2. Explains the procedure and recalls the complications specific to various procedures like coronary artery bypass graft surgery, valve replacement and cardiopulmonary bypass (C2) 3. Outlines the various procedures carried out for congenital heart disease repair (C2)	3
Unit 17		
Vascular surgery	1. Lists the various surgical procedures (I.e., fistula formation, endarterectomy and bypass), their approaches (open vs. Endovascular) and complications (C1)	1
PLASTIC SURGERY		
Unit 18		
Burns:	1. Classify types of Burn(C2) 2. List out the causes of burns (C1)	3

Content	Competencies	Number of Hours
	3. List out the clinical features of burns(C1) 4. Outline immediate and late complications(Cardiac,Pulmonary,Metabolic, Renal, Skin and Musculoskeletal) of burns(C2) 5. Explain the acute and long-term management of burns (C2)	
Unit 19		
Skin Grafts and Flaps	1. Classify types of Skin grafts and Flaps(C2) 2. Explain Post-operative management of skin grafts and flaps (C2) 3. List the various indications for cosmetic surgery(C1) 4. List out the criteria for grafts and flap selection(C1)	3
SURGICAL ONCOLOGY		
Unit 20		
Palliative and Reconstructive Surgeries in Head and Neck Cancer Emphasizing on Tongue, Buccal Mucosa, Floor of Mouth, Mandible, Maxilla, Pharynx, Larynx Surgical Indications, Procedures like Functional Neck Dissection and Excision and Flap Reconstruction - Post Operative Management and Complications	1. List the surgical indications for head and neck cancer surgeries. (C1) 2. Classify the types of head and neck dissections in patients with head and neck cancer (C2) 3. List down the diagnostic investigations (C1) 4. Explain the post-operative management after neck dissections (C2) 5. List the various post- operative complications in patients with head and neck cancer. (C1)	3
Unit 21		
Carcinoma Breast and gynaecological cancers- Surgical Indications, Procedure, Post-Operative Management and Complications	**1.** List the surgical indications in different types of breast cancer and gynaecological cancers (C1) 2. Classify the types of surgical procedures performed in breast cancer surgery and gynaecological cancer surgeries (C2) 3. List the post-operative complications after a breast cancer surgery and gynaecological cancer surgeries (C1) 4. List down the investigations used in the diagnosis (C1) 5. Explain the post-operative management after breast cancer surgery and gynaecological cancer surgeries (C2)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar		
Small group discussion (SGD)		
Self-directed learning (SDL)		
Problem Based Learning (PBL)		
Case Based Learning (CBL)		
Clinic		
Practical		
Revision		
Assessment		
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Quiz	Mid Semester / Sessional Exam (Theory)
	End Semester Examination (Theory)

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Mid Semester / Sessional Examination 1	x	x	x	x		
Presentations						
End Semester Exam	x	x	x	x		

Feedback Process:	**Mid-Semester Feedback**
	End-Semester Feedback
Main Reference:	1. Williams N, O'Connell PR & McCaskie A. Bailey & Love's Short Practice of Surgery, 27th edition. USA: CRC Press; 2018 2. Townsend C. Beauchamp RD, Evers MB & Mattox L. Sabiston Textbook of Surgery, 20th Edition. USA: Elsevier; 2016 3. Konar H. Dutta's textbook of gynaecology. 8th edition. India: Jaypee Brothers Medical Publishers; 2020
Additional References	1. Shekar P. On-Pump and Off-Pump Coronary Artery Bypass Grafting. Circulation. 2006;113(4).Available at htts://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.105.566737 2.Gaudino M, Bakaeen F, Davierwala P, Di Franco A, Fremes S, Patel N et al. New Strategies for Surgical Myocardial Revascularization. Circulation. 2018;138(19):2160-2168.Available at https://www.ahajournals.org/doi/epub/10.1161/CIRCULATIONAHA.118.035956 3. Vartanian S, Conte M. Surgical Intervention for Peripheral Arterial Disease. Circulation Research. 2015;116(9):1614-1628.available at https://www.ahajournals.org/doi/full/10.1161/circresaha.116.303504

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Community Medicine and Sociology**
Course Code	**CMS4102**
Academic Year	Fourth year
Semester	VII
Number of Credits	3
Course Prerequisite	Student should have basic knowledge on anatomy, physiology and sociology.
Course Synopsis	The module is deigned to: 1. Provide an overview to the students about the principles of community medicine and sociology with its impact on human behaviour. 2. Enable the students with the knowledge about the epidemiology of communicable and non-communicable diseases, its prevention strategies and various national health programs. 3. Provide an overview to the students of the various health care delivery systems and integrating them to achieve the sustainable development goals. 4. Describes the socio-cultural and environmental influence on health and disease.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the concepts of health, dynamics of disease transmission and its prevention and control including the role of family and community (C2)
CO2	Compare and contrast various epidemiological methods and identify the socio-cultural and environmental factors that influence health of a person (C4)
CO3	Identify the role of health care team members, to work in coordination for the promotion of health of the community (C3)
CO4	Explain the various health education and health delivery systems (C2)
CO5	Describe the overview of national level health care programmes/ policies and sustainable development goals (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x					x		
CO3				x	x			
CO4	x						x	
CO5			x					

Course Content and Outcomes:

Content	Competencies	Number of Hours
Community Medicine		
Unit 1		
Health and Diseases	1. Outline the concepts of health and diseases, determinants and indicators of health (C2) 2. Explain the natural history of disease and concept of causation (C2)	02
Unit 2		
Prevention of diseases	1. Describe the dynamics and modes of disease transmission and the role of immunizing agents (C2) 2. Distinguish between various levels of disease prevention and control (C4)	02
Unit 3		
Principles of epidemiology and epidemiological methods	1. Define epidemiology (C1) 2. Outline the concepts of epidemiology (C2) 3. Explain the various tools of measurement and its uses (C2) 4. Compare and contrast various epidemiological methods in research (C4)	02
Unit 4		
Epidemiology of communicable diseases	1. Describe the epidemiology and prevention of Tuberculosis, Filariasis, Leprosy, HIV/ AIDS (C2) 2. Summarize the national programs in brief (C2)	04
Unit 5		
Epidemiology of non-communicable diseases	1. Explain the epidemiology and prevention of cardiovascular diseases, hypertension, stroke, cancer, diabetes, obesity, hospital acquired infections (C2) 2. Summarize the national programs in brief (C2)	06
Unit 6		
Women and child health care	1. Outline antenatal, intranatal and postnatal care (C2) 2. Discuss the overview of RCH (Reproductive and Child Health and NRHM (National Rural Health Mission) programmes(C3) 3. Explain the neonatal and under five care, family planning and family welfare services (C2)	03
Unit 7		
Health and nutrition	1. Outline the principles of nutrition, food components and balanced diet (C2) 2. Explain the features of nutritional deficiency disorders- PEM, IDD, IDA, Vitamin A (C2)	02

Content	Competencies	Number of Hours
	3. Summarize the national programs for addressing nutritional deficiency disorders in brief (C2)	
Unit 8		
Occupational health	1. Discuss the types of occupational hazards and occupational diseases (C2) 2. Explain the methods of prevention of occupational disorders including occupational cancers (C3)	02
Unit 9		
Health education and health delivery system	1. Define health education and health literacy (C1) 2. Outline the principles and contents of health delivery systems (C2) 3. Compare various health care delivery systems including e health care, tele health care (C4) 4. Plan health care delivery system in urban and rural set up (C3)	01
Unit 10		
Goals, Policies and Agencies	1. Illustrate the national health policies (C2) 2. Summarize the millennium development goals and sustainable development goals (C2) 3. Explain the role of international health agencies (C2)	02
Sociology		
Unit 1		
Introduction to Sociology	1. Define Sociology.C1 2. Understand the application of sociology in health care services.C2	01
Unit 2		
Social factors in health and disease situations	1. Describe the role of social factors affecting health.C2	01
Unit 3		
Socialization	1. Define socialization and its agencies.C1 2. Explain the types of socialization. C2 3. Describe the influence of social factors on personality. C2 4. Describe socialization in hospital and rehabilitation settings. C2	02
Unit 4		
Family	1. Outline the concept of family (C1) 2. Identify changes in the structure and functions of modern family. (C2) 3. Explain the role of family in health and disease. (C2)	02

Content	Competencies	Number of Hours
	4. Describe factors of family that influence nutrition(C2) 5. Explain the effects of sickness on family. C2	
Unit 5		
Community	1. Explain the concept of community. C2 2. Describe the types of community and its features.C2	01
Unit 6		
Culture	1. Describe the impact of culture on human behaviour, health and health disorder. C2 2. Describe the cultural responses to sickness and decision making in the treatment. C2	02
Unit 7		
Social change	1. Explain the consequences of social changes in relation to health and diseases. C2 2. Explain the role of social planning in the improvement of health and rehabilitation. C2	01
Unit 8		
Social control	1. Define social control. C1 2. Identify the elements of social controls such as norms, folkways, custom, morals, religion and law in the regulation of human behaviour. C2	01
Unit 9		
Social Problems	1. Identify various social problem and its consequences in India 2. Describe preventive measures for social problems	01
Unit 10		
Social security and welfare programs for differently abled and aged	1. Highlight various social security and welfare programs for differently abled and aged in	01

Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Revision		
Assessment	8	24
Total	**47**	**141**
Assessment Methods:		
Formative:	**Summative:**	
Presentations	Mid Semester/Sessional Exam (Theory)	
	End Semester Exam (Theory)	

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester Examination	x	x	x		
End Semester Exam	x	x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main References	1. Park, K. *Park's textbook of preventive and social medicine.* Jabalpur: M/S Banarsidas Bhanot; 2011. 2. Sachdeva DR & Bhushan V. An introduction to Sociology. Allahabad: Century printers 3. Shankar Rao C.N: Sociology. New Delhi: S. Chand & Company Ltd. New Delhi; 2005. 4. Jaykumar GS & Sivkumar P. Medical Sociology – Grooming Social Scientists in Medical Field. New Delhi:Social Publications; 2007				
Additional References **Main References**	1. Lal S & Pankaj A. Textbook of Community Medicine – Preventive and Social Medicine 5th edition. New Delhi:CBS Publishers and Distributors Pvt., Ltd; 2017. 2. Madan G.E: Indian social Problems. Mumbai: Allied publishers Pvt Ltd. 3. Rawat HR. Sociology- Basic concepts. India: Rawat Publications; 2007				

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy Practice Issues**
Course Code	**OCT4101**
Academic Year	Fourth year
Semester	VII
Number of Credits	3
Course Prerequisite	Introduction to Occupational Therapy, Communication Skills, Basic Competencies for Occupational Therapists-I & II
Course Synopsis	1. This course includes ethical aspects, communication, clinical reasoning and managerial skills related to occupational therapy practice. 2. The course also discusses the influence of culture on occupational therapy practice. 3. This course describes the importance of professional competence of the therapists on occupational therapy practice

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the use of appropriate professional reasoning and communication skills in occupational therapy practice. (C5)
CO2	Explain client-centred practice. (C5)
CO3	Explain administrative and organizational skills in managing occupational therapy practice. (C5)
CO4	Explain the role of professional organizations and socio-legal considerations that influence occupational therapy practice. (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1				x	x			
CO2						x	x	
CO3							x	x
CO4	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:Essential skills for occupational therapy practice		
Client-centred practice	1.Explain contextual congruence and occupational engagement as key considerations for client-centred practice (C5) 2.Explain the client-centred principles using conscious decision-making and cultural historical activity theory frameworks (C5) 3.Critique the applicability of client-centred practice	10

Content	Competencies	Number of Hours
	in occupational therapy settings (C5)	
Communication in occupational therapy	1.Explain team interaction models in occupational therapy practice settings (C2) 2. Explain the guidelines for preparing resource material for client education (C5) 3. Explain the components of documentation notes (C5)	
Culture and occupational therapy	1.Explain the influence of attributes of culture on occupational therapy practice (C5) 2. Explain the need for achieving multicultural competence as an occupational therapy practitioner (C5)	
Therapeutic relationships	1.Explain strategies used to develop a therapeutic relationship (C5) 2.Explain the five stages of therapeutic process used to develop therapeutic relationships (C5)	
Unit 2: Advanced skills required for an occupational therapy professional		
Occupational therapy professional organizations	1.Explain the roles and functions of various international and national associations (WFOT, AIOTA, AOTA) and regulatory boards (NBCOT) in credentialing occupational therapy services and developing the profession (C5)	15
Translating research into practice	1.Explain guidelines to translate research into clinical practice (C5)	
Professional reasoning for practice	1.Explain the various types of professional reasoning (C5) 2.Explain the cognitive processes underlying professional reasoning (C5) 3.Explain the professional reasoning continuum (C5) 4. Explain appropriate strategies of reflection to improve professional reasoning (C5)	
Occupational Therapist as consultant	1.Explain the characteristics of occupational therapy consultants and types of consultations they use (C5) 2.Discuss emerging practice areas for consultants (C6)	
Ethics and ethical dilemmas in occupational therapy	1.Explain the concept of morality and ethics in occupational therapy (C5) 2.Appraise the use of bioethical principles in medical ethics (C5) 3.Explain ethics related to care, research and teaching (C5) 4.Explain the factors influencing ethical occupational therapy practice (C5)	
Unit 3:Maintaining occupational therapy professional practice		
Competence and professional	1.Explain factors affecting continuing competency and competence (C5)	14

Content	Competencies	Number of Hours
development	2.Explain effective learning activities for professional development (C5)	
Socio-legal considerations for OT practice	1.Explain national health insurance schemes in India and their influence on occupational therapy practice (C2)	
Managing practice	1.Explain the roles and functions of occupational therapists as managers, administrators and supervisors (C5) 2. Explain the four traditional managerial functions (C5) 3.Explain financial management, marketing and role of technology in management (C5) 4.Explain the supervisory process, types, methods and frequency of supervision in occupational therapy practice (C5)	
e-tools	1.Explain the specialized knowledge and skills in technology and environmental interventions needed for occupational therapy practice (C5) 2.Explain appropriate e-tools for assessment and intervention in occupational therapy (C5)	
Practical aspects of becoming a beginning practitioner	1. Explain changes an occupational therapist goes through in transition from classroom to fieldwork and then from fieldwork to employment. (C5) 2.Explain the skills required for transitioning from being a student to a practitioner (C5)	
Preparing for the workforce	1.Explain the concepts of entrepreneurship, intrapreneurship and delivery of occupational therapy entrepreneurship (C5) 2.Develop a Curriculum Vitae (CV) and job search-related skills (C6)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignment/ Presentations	--

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x		
Quiz	-	-	x	x
Assignments/Presentations	x	x	x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Boyt Schell, B., Scaffa, M., Gillen, G., Cohn, E., Editors. Willard and Spackman's Occupational Therapy. 12th ed. Philadelphia. Lippincott Williams and Wilkins, 2013 2. Dsouza SA, Galvaan R, Ramugondo EL. editors. Concepts in occupational therapy: Understanding southern perspectives. Manipal: Manipal University Press; 2017
Additional References	1. All India Occupational Therapists' Association. AIOTA/ Home [Internet]. India:PCB Apps Global c2016 [Unknown Date, cited 2017 Dec 17] Available from: www.aiota.org 2. National Health Portal of India, Gateway to Authentic Health Information. National Health Insurance Schemes/Home [Internet]. India: Center for Health Informatics c2016 [Unknown date, cited 2017 Dec 17] Available from: http://www.nhp.gov.in/national-health-insurance-schemes 3. Jones, R.. Specialized Knowledge and Skills in Technology and Environmental Interventions for Occupational Therapy Practice. American Journal of Occupational Therapy. 2010Jan;64(6_Supplement). 4. World Federation of Occupational Therapists. WFOT/Home [Internet]. Australia:The Digital Embassy c2016 [Unknown Date, cited 2017 Dec 17] Available from: www.wfot.org 5. Burke, J. P., &Gitlin, L. N. How do we change practice when we have the evidence? *American Journal of Occupational Therapy*, 2012. *66*(5), e85-e88.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy in Community Practice**
Course Code	**OCT4102**
Academic Year	Fourth year
Semester	VII
Number of Credits	3
Course Prerequisite	Introduction to Occupational Therapy, Assessments in Occupational Therapy-I, Assessments in Occupational Therapy-II, Enabling Occupations, Occupational Therapy Interventions.
Course Synopsis	1. This course explains the concepts of community, community health, public health, health promotion and health outcomes, along with interventions and theories of health promotion. 2. This course also explains the concept of community-based rehabilitation and various socio-legal influences on occupational therapy practice in community settings.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain various concepts of health and the role of occupational therapy in community and health promotion. (C5)
CO2	Explain various community based health promotion theories and models. (C5)
CO3	Compare different community based rehabilitation models. (C5)
CO4	Explain various socio-legal influences on occupational therapy practice in community settings. (C5)

Mapping of Course Outcomes (Cos) to Program Outcomes (Pos):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							x
CO2		x						
CO3	x		x					
CO4								x

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Occupational therapy practice in community settings		
Occupational therapy in community practice	1. Explain the concepts of health and occupation in relation to wellbeing. (C2) 2. Explain the relationship between occupation, impairment, and wellbeing. (C5) 3. Justify the process of structuring occupation to enhance wellbeing. (C5)	17
Occupational therapy in health promotion	1. Explain the relationship between occupational therapy and health promotion. (C5)	

Content	Competencies	Number of Hours
	2. Explain the determinants of health. (C5) 3. Compare primary, secondary and tertiary prevention. (C5)	
Health outcomes in community practice	1. Explain the concepts of measuring health outcomes. (C5) 2. Explain the methods to evaluate health outcomes. (C5) 3. Explain mortality, quality adjusted life years. (C2)	
Health Promotion: theories and approaches	1. Explain health promotion theories -Health Belief Model, Trans Theoretical Model of Change. (C5) 2. Explain health promotion theories- Social Cognitive Theory and Precede-Proceed model. (C5) 3. Explain health promotion theories- Model of Human Occupation, Ecology of Human Performance Model, PEO model. (C5) 4. Explain the approaches to health promotion- Naidu and Wills, Beattie Model. (C5)	
Occupational therapy Interventions in community practice	1. Explain client factors and performance patterns related to community occupational therapy practice. (C5) 2. Explain the application of client-centred and evidence based practice in community settings. (C5) 3. Explain occupational therapy intervention approaches in community settings with examples. (C5)	
Unit 2: Community Based Rehabilitation		
Community based rehabilitation in occupational therapy practice	1. Explain Community based rehabilitation (CBR). (C2) 2. Explain the role of rehabilitation professionals and skills of therapists as required in CBR. (C2) 3. Compare between traditional and new concepts of CBR. (C5) 4. Explain the principles impacting the development of CBR program. (C5) 5. Explain the relationship of CBR to occupational therapy. (C5)	4
Unit 3: Social and legal influences in community practice		
Legislations and health programs in India	1. Explain the process of policy-making and implementation. (C5) 2. Explain the need for occupational therapists to know various policies and legislations. (C5) 3. Explain the aims, objectives and benefits under the Persons with Disability Act, 2016 and National Trust for Welfare of Persons with Autism. (C5)	18

Content	Competencies	Number of Hours
	4. Explain the aims, objectives and benefits under the Cerebral Palsy and Mental Retardation and Multiple Disability Act, 1987 and Navjaat Shishu Suraksha Karyakram. (C5) 5. Explain the aims, objectives, and benefits under the National Program for Health Care of the Elderly and School Health Program in India. (C5) 6. Explain the aims, objectives, and benefits of The Right to Education Act 2008 and Maintenance and Welfare of Parents and Senior Citizens Act 2007. (C5)	
Developing partnerships in community	1. Explain the need for occupational therapists to build partnerships. (C5) 2. Explain the barriers faced by marginalized population and strategies that can be used to enhance community participation. (C5)	
Developing inclusive communities	1. Explain the impact of social problems and policies on marginalised people and strategies that can be used to enhance their participation. (C5) 2. Explain the role of occupational therapy in development of inclusive communities, and the Occupation Based Community Development Model. (C5)	
Developing community based programs	1. Explain program development and principles of program planning. (C5) 2. Explain the program planning process. (C5) 3. Explain program implementation, evaluation, and institutionalization. (C5)	
Practice settings in community	1. Explain the role of occupational therapy in early intervention and school settings. (C5) 2. Explain the role of occupational therapy in work rehabilitation and home health settings. (C5) 3. Explain the role of occupational therapy in community mental health and adult day care. (C5)	
Living with chronic illness	1. Explain the characteristics of chronic illness. (C5) 2. Explain how a health professional can develop a working relationship with a client with chronic illness. (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Total	**39**	**117**

Assessment Methods:					
Formative:	**Summative:**				
Unit Test	Mid Semester Exam (Theory)				
Quiz	End Semester Exam (Theory)				
Assignments/Presentations	--				
Mapping of Assessment with COs:					
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1		x	x	x	
Sessional Examination 2		-	-	-	-
Quiz / Viva		x	x	x	x
Assignments/Presentations		x	x	x	x
Clinical/Practical Log Book/ Record Book		-	-	-	-
Any others: WPBA		-	-	-	-
End Semester Exam		x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. Scaffa ME. Occupational Therapy in Community-Based Practice Settings 2nd ed., Philadelphia: F.A Davis Company; 2014. 2. Curtin M. Molineux M. Mellson JS. Occupational Therapy and Physical Dysfunction: Enabling Occupation 6th ed. China Churchill Livingstone; 2009				
Additional References:	1. Schell BA, Gillen G, Scaffa M, Cohn E.S. Willard & Spackman's Occupational Therapy 12th ed., Philadelphia: Lippincott Williams & Wilkins; 2013 2. Scambler G. Sociology as applied to medicine 7th ed. Elsevier; 2018 3. Sunder S. Text book of rehabilitation 4th ed. India Jaypee Brothers Medical Publishers (P) Ltd; 2020 4. Kishore J. National Health Programs of India 11th ed. India Century Publications; 2014 5. Galvan. R. and Peters. L. (2013) Translating knowledge from Occupational Science: Contributions to the Occupation-based Community Development Framework 6. Schell BA, Crepeau BE, Cohn E.S. Willard & Spackman's Occupational Therapy 13th ed., Philadelphia: Lippincott Williams & Wilkins; 2018				

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Evidence Based Practice-I**
Course Code	**OCT4103**
Academic Year	Fourth year
Semester	VII
Number of Credits	3
Course Prerequisite	Occupational Therapy Interventions, Enabling Occupations, Basic Biostatistics and Research Methodology
Course Synopsis	1. This course introduces students to evidence-based practices in occupational therapy. 2. It provides foundational knowledge that supports student's abilities to appraise and create new knowledge, and apply this knowledge into occupational therapy practice. 3. It further provides opportunities for students to design a research protocol for enhancing evidence based practice.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Outline the essentials of research and scholarly activities related to evidence based practice in occupational therapy (C2)
CO2	Develop skills to locate, understand, and evaluate information, including the quality of research evidence (C3, P4, A3)
CO3	Design a research proposal for developing evidence based practice (C6, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):								
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2						x	x	
CO3		x					x	

Course Content and Outcomes:

Content	Competencies	Number of Hours
Unit 1: Introduction to evidence based practice in occupational therapy		
Evidence Based Practice (EBP)	1.Outline the essentials of EBP in occupational therapy (C2) 2.Explain the first step of evidence based practice (writing an answerable clinical question) (C5) 3. Explain the second step of evidence based practice (gathering current published evidence) (C5) 4. Explain the third step of evidence based practice (appraising the evidence) (C5) 5.Explain the final step of evidence based practice (using the evidence to guide practice) (C5)	8

Content	Competencies	Number of Hours
Levels of evidence Ethics in research	1. Explain the levels of evidence pyramid (C5) 1.Outline the basic principles for conducting bio medical research (C2) 2.Explain the Helsinki's principles of medical research involving human subjects (C2)	
Unit 2 Research Proposal		
Structure of a research proposal	1. Explain research proposal and its structure (C2) 2.Explain the components of research proposal (defining a problem) (C2) 3.Explain the components of research proposal (review of literature) (C2) 4.Explain the components of research proposal (methodology) (C2) 5. Explain the components of research proposal (data collection) (C2) 6.Explain the components of research proposal (data analysis) (C2) 7. Plan a research proposal (defining a problem) (C3) 8. Plan a research proposal (review of literature) ((C3) 9. Plan a research proposal (methodology) (C3) 10.Plan a research proposal (data collection & analysis) (C3) 11. Formulate a research proposal (C6, P4)	31
Conducting a literature search	1.Explain the process of literature search (C2) 2.Explain the steps involved in literature search (what, where, how, and how well) (C2) 3.Build skills for conducting literature search (C3, P4)	
Introduction to citing references	1.Outline the importance of crediting sources (C2) 2.Explain American Psychological Association (APA) guidelines for in-text citation (C2) 3.Explain APA guidelines for citing references (C2) 4.Build the skills to use Mendeley software for citing references (C3, P4)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	--	--
Small group discussion (SGD)	13	39
Case Based Learning (CBL)	--	--
Revision	--	--
Assessment	--	--
Total	**39**	**117**

Assessment Methods:			
Formative:	**Summative:**		
Assignments/Presentations	Presentations		
Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Mid Semester / Sessional Examination 1	-	-	-
Quiz / Viva	-	-	-
Assignments/Presentations	x	x	x
Any others: WPBA	-	-	-
End Semester Exam	-	-	-
Feedback Process:	Mid-Semester Feedback		
	End-Semester Feedback		
Main Reference:	1. Schell BA, Gillen G, Scaffa M, Cohn ES, editors. Willard and Spackman's occupational therapy, 12th ed. Philadelphia: Lippincott Williams & Wilkins; 2013. 2. Taylor RR. Kielhofner's Research in Occupational Therapy: Methods of Inquiry for Enhancing Practice. FA Davis; 2017.		
Additional References	1. American Psychological Association. (2009). *Publication manual*. Sixth Edition. Washington. DC: American Psychological Association.		

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork-VI**
Course Code	**OCT4131**
Academic Year	Fourth year
Semester	VII
Number of Credits	5
Course Prerequisite	Assessments in Occupational Therapy- I & II, Basic Competencies for Occupational Therapists- I & II, Activities and Occupations, Development Across the Life Span, Clinical Fieldwork-I, II, III, IV & V.
Course Synopsis	1. This course provides opportunities for the students to interact with clients and caregivers during occupational therapy sessions, and to assist in therapy interventions, under supervision in the areas of pediatrics, mental health and community settings. 2. It also lets students to establish treatment goals and identify treatment approaches to be used based on evaluation for common pediatrics, mental health conditions in acute and community settings. 3. It further provides an opportunity for students to practice occupational therapy documentation of client's evaluation, intervention and progress with an emphasis on reasoning skills, under supervision.

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Develop interaction with clients and/ or caregivers, and identify the prioritized occupations based on evaluation, under supervision for common pediatrics and mental health conditions in acute and community settings. (C6, P6, A5)
CO2	Select treatment goals, under supervision in collaboration with clients and/or caregivers for common pediatrics and mental health conditions in acute and community settings. (C5, P4, A4)
CO3	Identify treatment approaches to be used for clients with common pediatrics and mental health conditions in acute and community settings and assist in interventions using these approaches under supervision (C3, P4, A3)
CO4	Build the skill of documenting the process of occupational therapy (evaluation, interventions, progress), under supervision. (C3, P4)
CO5	Develop professional attributes in the clinical areas of pediatrics and mental health and community settings. (C6, P6, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2	x	x						
CO3						x	x	
CO4					x			

CO5				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Practice occupational therapy process in the areas of Pediatric Habilitation, Mental Health & Psychosocial rehabilitation and Community rehabilitation, under supervision.		
	1. Develop occupational profile and choose the occupational priorities of clients based on evaluation, under supervision for common pediatrics and mental health conditions. (C6, P6, A5) 2. Prioritize treatment goals based on problem identification using OTPF level III evaluation format for clients with common pediatrics and mental health conditions in acute and community settings, under supervision. (C5, P5, A4) 3. Identify the occupational therapy intervention approaches to be used for common pediatrics and mental health conditions. (C3, P4, A3) 4. Apply occupational therapy interventions, under supervision for clients with common pediatrics and mental health conditions. (C3, P4, A4) 5. Build the skill of documenting the process of occupational therapy (evaluation, intervention and progress), under supervision. (C3, P4) 6. Develop professional attributes in clinical settings (initiation, observation skill, problem solving, time management, communication skills, self-directed learning, participation in the supervisory process, reflective learning) (C6, P6, A5)	Clinical Discussions (42 hours) Clinical practice (153 hours)

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	--	--
Seminar	--	--
Small group discussion (SGD)	42	84
Self-directed learning (SDL)	--	--
Problem Based Learning (PBL)	--	--
Case Based Learning (CBL)	--	--
Clinic	153	306
Practical	--	--
Revision	--	--
Assessment	--	--
Total	**195**	**390**
Assessment Methods:		
Formative:	**Summative:**	
Viva	End of Posting Exam	
Assignments/Presentations	**--**	
Clinical assessment (OSCE, OSPE,	**--**	

WBPA)						
Clinical/Practical Log Book			--			
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	
Viva		x	x			
Assignments/Presentations		x	x	x		
Any others: WPBA	x				x	
Clinical/Practical Log Book					x	
End of Posting Exam	x	x	x	x	x	

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J OccupTher. 2014 Apr; 68 (Suppl. 1): S1-S48. 2. Clinical Format

SEMESTER - VIII

COURSE CODE	:	COURSE TITLE
CPS4201	:	Clinical Psychiatry
OCT4221	:	Occupational Therapy for Children
OCT4222	:	Occupational Therapy in Mental Health
OCT ****	:	Program Elective - II
OCT4201	:	Evidence Based Practice - II
OCT4231	:	Clinical Fieldwork - VII

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Psychiatry**
Course Code	**CPS4201**
Academic Year	Fourth year
Semester	VIII
Number of Credits	02
Course Prerequisite	Clinical Psychology
Course Synopsis	1. This course outlines the etiology, signs, symptoms, medical management and their side effects for common psychotic and neurotic conditions in psychiatry. 2. It also includes the legal and ethical issues to be considered in psychiatry practice

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	List the clinical signs and symptoms of psychiatric disorders (C 4)
CO2	Explain the common medications and their side effects that are essential for occupational therapists in mental health (C 2)
CO3	Explain the legal and ethical issues in psychiatry (C 2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x				x			
CO3				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Classification of psychiatric disorders	1. Explain the classification of psychiatric disorders based on DSM and ICD (C2)	1
Etiology of psychiatric disorders	1. Explain the etiology of psychiatric disorders (C2)	1
Psychiatric history and examination	1. Develop the psychiatric interview, history taking and mental status examination (C3)	1
Organic mental disorders	1. Identify the clinical features of organic mental disorders and their management (C3)	1
Substance use disorders	1. Identify the different types of substance related and addictive disorders including – alcohol-related, caffeine, cannabis, hallucinogen, Inhalant, opioid-related, tobacco (C3) 2. Explain the pharmacological and psychosocial management for substance use disorders (C2)	2

Content	Competencies	Number of Hours
Schizophrenia and management	1. Identify different types, clinical features, and management of schizophrenia (C4)	1
Mood Disorders and management	1. Identify the types, clinical features, and management of mood disorders (C3)	1
Other psychotic disorders and management	1. Identify the clinical features and management of other psychotic disorder(C3)	1
Neurotic, stress-related and somatoform disorders	1. Identify the types, clinical features of Neurotic, stress-related and somatoform disorders (C3) 2. Explain the management of neurotic, stress-related and somatoform disorders (C2)	2
Disorders of adult personality and behaviour	1. List the clinical features and of adult personality and behaviour (C4)	1
Sexual disorders and management	1. Explain the sexual disorders and management (C2)	1
Mental Retardation and management	1. List the types and clinical features of mental retardation and management (C4)	1
Disorders of psychological development	1. Explain the disorders of psychological development (C 2)	1
Disorders of childhood and adolescence	1. Explain the disorders of childhood and management of childhood and adolescence disorders (C 2)	1
Eating and sleep disorders	1. Explain the types and clinical features of eating and sleep disorders (C 2)	1
Management of eating and sleep disorders	1. Explain the management of eating and sleep disorders (C2)	1
Neuropsychiatric disorders Neurocognitive Disorders	1. List the types and clinical neuropsychiatric disorders (C4) 2. Explain the treatment for neuropsychiatric disorders (C2)	2
Psychosomatic medicine	1. List the psychosocial factors affecting psychosomatic disorders (C4)	1
Geriatric psychiatry	1. Explain the psychosocial issues in geriatric psychiatry (C2)	1
Community psychiatry	1. Explain community psychiatry (C2)	1
Psychiatric rehabilitation	1. Explain psychiatric rehabilitation (C3)	1
Psychosocial interventions	1. Explain the different psychosocial interventions (C2)	1
Legal and ethical issues in psychiatry	1. Outline the legal and ethical issues in psychiatry (C2)	1

Learning Strategies, Contact Hours, and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	
Small group discussion (SGD)	-	
Self-directed learning (SDL)	-	
Problem Based Learning (PBL)	-	
Case-Based Learning (CBL)	-	
Clinic	-	
Practical	-	
Revision	-	
Assessment	-	
Total	**26**	**78**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Viva	-
Assignments/Presentations	-

Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Mid Semester / Sessional Examination 1	x	x	x
Sessional Examination 2			
Quiz / Viva			
Assignments/Presentations			
Clinical/Practical Log Book/ Record Book			
Any others: WPBA			
End Semester Exam	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Neeraj A. A Short Textbook of psychiatry, 7th ed. New Delhi: Jaypee Brothers Medical Publishers; 2011 2. Kaplan HI, Sadoch BJ. Synopsis of psychiatry. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2007.
Additional References	1. Pratt C, Gill K, Barrett N & Roberts M. Psychiatric Rehabilitation 3rd ed. Academic press/Elsevier. 2015

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy for Children**
Course Code	**OCT4221**
Academic Year	Fourth year
Semester	VIII
Number of Credits	4
Course Prerequisite	Assessments in Occupational Therapy-I & II, Basic Competencies for Occupational Therapists-I & II, Development Across the Life Span, Enabling Occupations, Pediatrics.
Course Synopsis	1. This course describes the common practice settings for occupational therapists working with children and the importance of family centered practice in paediatric occupational therapy interventions. 2. It includes the approaches (neurodevelopmental, sensory integration and biomechanical) and interventions commonly used in occupational therapy for children. 3. It describes the impact of common paediatric conditions on children's participation in occupations and application of occupational therapy interventions for the same.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Outline the practice settings and the essentials of family centered practice for occupational therapists working with children. (C2)
CO2	Explain the dysfunctions in occupational participation that occur due to common paediatric conditions. (C5)
CO3	Explain the occupational therapy evaluations and interventions for specific performance skills and areas of occupations in children with special needs (C5)
CO4	Justify occupational therapy evaluation and treatment for common paediatric conditions (C5, P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x				x			
CO2	x	x						
CO3		x				x		
CO4				x		x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Overview of occupational therapy for children and common approaches used in paediatric occupational therapy		
Areas of practice	1. Outline the continuum of care in occupational therapy to support optimal function and	14

Content	Competencies	Number of Hours
	participation of children. (C2)	
Family centered care	1.Explain the role of occupational therapists in collaborating with families of children with special needs (C2)	
Neurodevelopmental Approach	1.Outline the theoretical base and dysfunctions based on neurodevelopmental approach (C2) 2.Explain the evaluation and interventions based on neurodevelopmental approach (C2) 3.Apply neurodevelopmental approach based evaluations using case simulations (C3, P3, A3) 4.Apply neurodevelopmental approach based intervention strategies using case simulations (C3, P3, A3)	
Sensory Integration Approach	1.Outline the theoretical base and dysfunctions based on sensory integration approach (C2) 2. Explain the evaluation and interventions based on sensory integration approach (C2) 3. Apply evaluation and intervention strategies for tactile, vestibular and proprioceptive sensory system modulation disorders using case simulations (C3, P3, A3) 4. Apply evaluation and intervention strategies for visual and auditory sensory system modulation using case simulation (C3, P3, A3)	
Biomechanical Approach	1. Outline the theoretical base and dysfunctions based on the biomechanical approach (C2) 2. Explain the evaluation and interventions based on biomechanical approach (C2) 3. Apply biomechanical approach based evaluation and treatment techniques to improve functional skills and central stability in supine and prone positions, using case simulation (C3, P3, A3) 4. Apply biomechanical approach based evaluation and treatment techniques to improve functional skills and central stability in side-lying, sitting and standing positions using case simulation (C3, P3, A3)	
Unit 2: Occupational therapy assessments and interventions for specific performance skills		
Occupational therapy assessments and interventions for hand skills	1. Outline the components and factors influencing children's hand skills (C2) 2. Explain the relationship of hand skills to children's occupations and general motor problems that affect hand skills (C5) 3. Explain the methods of assessing hand skills (C5) 4. Explain the intervention guidelines for enhancing hand skills (C5) 5. Apply remedial and adaptive strategies for enhancing hand skills using case simulations (C3, P4, A3)	17

Content	Competencies	Number of Hours
Occupational therapy assessments and interventions for oral motor skills	1. Explain the terminologies such as eating, feeding and mealtime and factors that influence mealtime (C2) 2. Explain the developmental sequence of mealtime participation and eating skills (C2) 3. Explain the evaluation and intervention strategies for sensory and motor impairments that impact meal-time participation (C5) 4. Explain the evaluation and intervention strategies for specific referral problems such as dysphagia, food refusal, delayed transition, cleft lip, cleft palate and other structural abnormalities (C5) 5. Apply jaw control techniques, different food textures, liquid consistencies and positions for participation in feeding using case simulations (C3, P4, A3)	
Occupational therapy assessments and interventions for VP skills	1. Explain the components and the sequence of visual perception development (C2) 2. Explain the specific visual perceptual problems and their effects on children's performance skills and occupations (C5) 3. Explain the evaluation methods and intervention strategies based on developmental framework (C5) 4. Apply evaluation and intervention strategies of visual perceptual skills to facilitate school participation using case simulations (C3, P4, A3)	
Occupational therapy assessments and interventions for writing skills	1. Explain the process of writing including development of writing, handwriting readiness and progression of pencil grip (C5) 2. Explain the evaluation methods and approaches guiding intervention for writing disorders (C5) 3. Apply evaluation and intervention strategies based on biomechanical and sensorimotor approaches using case simulations (C3, P4, A3)	
Unit 3: Occupational therapy assessments and interventions for areas of occupations		
Enabling participation in Activities of Daily Living (ADL)	1. Outline the importance of developing ADL occupations and factors affecting ADL performance in children (C2) 2. Explain the evaluation methods and intervention approaches for improving outcomes in ADL (C5) 3. Select interventions for enabling participation in dressing and toileting through positioning, handling, adaptations using case simulations (C5, P4, A3) 4. Select interventions for enabling participation in bathing and grooming through positioning, handling, adaptations using case simulations (C5, P4, A3)	10
Enabling participation	1. Explain play theories and assessments of play for	

Content	Competencies	Number of Hours
in play	children with special needs (C5) 2. Explain the use of play in intervention for children with special needs (C5) 3. Evaluate play skills using Takata's play classifications and Bundy's test of playfulness using case simulations (C5, P4, A3) 4. Justify the use of intervention strategies for facilitating play in children with special needs using case simulations (C5, P4, A3)	
Enabling participation in school	1. Outline school-based occupational therapy process for children with disabilities (C2) 2. Explain interventions and outcomes in school-based practice for children with disabilities (C2)	
Unit 5: Occupational therapy interventions in common pediatric conditions		
Cerebral Palsy (CP)	1. Explain the types of CP and its occupational dysfunctions (C5) 2. Explain the associated problems in children with CP and their impact on occupational participation (C5) 3. Explain occupational therapy evaluation for various types of CP (C5) 4. Explain occupational therapy interventions including remedial and compensatory strategies for children with CP (C5) 5. Justify the evaluations based on Neurodevelopmental and biomechanical approaches using case simulations (C5, P4, A3) 6. Apply evaluation of developmental reflexes through case simulations (C3, P4, A3) 7. Justify the use of handling, positioning, and adaptations for participation in occupations using case simulations (C5, P4, A3)	24
Autism Spectrum Disorder (ASD)	1. Explain the occupational dysfunctions of ASD and occupational therapy management for the same (C5) 2. Justify the use of behavior and sensory integration therapies for participation in self-care using case simulations (C5, P4, A3) 3. Justify the use of behavior and sensory integration therapies for participation in play, schooling using case simulations (C5, P4, A3)	
Intellectual disabilities and Down's syndrome	1. Explain the impact of these conditions on occupational participation and the occupational therapy management for the same (C5) 2. Justify the use of intervention techniques based on behavior therapy for participation in occupations using case simulations (C5, P4, A3)	
Seizure disorders	1. Explain the impact of seizure disorders on participation in occupations, emergency treatment to be taken during episode of seizure and role of	

Content	Competencies	Number of Hours
	occupational therapy (C5) 2. Choose intervention strategies such as handling, positioning, and behavior techniques for participation in occupations using case simulations (C5, P4, A3)	
Developmental Coordination Disorder (DCD)	1. Explain occupational dysfunctions, occupational therapy evaluation and intervention for children with DCD (C5) 2. Apply Cognitive Orientation to daily Occupational Performance (CO-OP) approach based intervention techniques using case simulations (C3, P4, A3)	
Muscular Dystrophy (MD)	1. Explain the influence of MD on occupational participation and occupational therapy management for the same (C5) 2. Justify the use of intervention strategies based on Rehabilitation Frame of Reference using case simulations (C5, P4, A3)	
Attention Deficit Hyperactivity Disorder (ADHD)	1. Explain the occupational dysfunctions, occupational therapy evaluations and interventions for children with ADHD (C5) 2. Justify intervention techniques to improve classroom participation through case simulations (C5, P4, A3)	
Learning Disabilities (LD)	1. Explain various specific learning disabilities and their impact on occupational functioning (C5) 2. Explain occupational therapy assessments with an emphasis on soft neurological signs and approaches to be used for intervention (C5) 3. Justify the use of remedial and compensatory strategies for handwriting through case simulations (C5, P4, A3) 4. Justify the use of remedial and intervention strategies for reading and calculation for improving classroom participation through case simulations (C5, P4, A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	26	78

Revision	-	-
Assessment	-	-
Total	**65**	**195**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	**--**

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x	x	-
Quiz / Unit Test	--	x	x	x
Assignments/Presentations	--	x	x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Case-Smith J, O'Brien JC, editors. Occupational Therapy for Children and Adolescents. 7th ed. St. Louis: Mosby, Elsevier Inc.; 2014. 2. Atchison B, Dirette DP, editors. Conditions in Occupational Therapy: Effect on Occupational Performance. 5th ed. Philadelphia: Wolters Kluwer Health Inc; 2016.
Additional References	1. Kramer P, Hinojosa J, Howe T, editors. Frames of Reference for Pediatric Occupational Therapy. 4th ed. Philadelphia: Wolters Kluwer Health Inc; 2018. 2. Schell BB, Gillen G, Scaffa ME, Cohn ES, editors. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2014. 3. Lazaro RT, Reina-Guerra SG, Quiben MU, editors. Umphred's Neurological Rehabilitation. 7th ed. St. Louis: Missouri, Elsevier; 2020.

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy in Mental Health**
Course Code	**OCT4222**
Academic Year	Fourth year
Semester	VIII
Number of Credits	04
Course Prerequisite	Communication Skills, Assessments in Occupational Therapy-II, Developmental across the Life Span, Clinical Psychology, Activities and Occupations, Sociology.
Course Synopsis	1. This course outlines the practice settings and process of occupational therapy for clients with psychosocial issues 2. It explains the theoretical concepts and approaches that guide occupational therapy assessment and treatment in psychosocial rehabilitation. 2. It also describes the influence of common mental health condition on client's participation in daily occupations. 3. It further discusses the occupational therapy assessments and interventions that enable and enhance participation in occupations for clients with psychosocial issues.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Outline the process and role of occupational therapy in mental health in various practice settings for occupational therapy professionals working in psychosocial rehabilitation. (C2)
CO2	Explain the approaches used in psychosocial occupational therapy. (C5)
CO3	Determine the impact of mental health conditions in the participation of various occupations (C5)
CO4	Explain the comprehensive assessments used for common mental health conditions in various settings. (C5)
CO5	Justify the application of occupational therapy intervention techniques for various mental health conditions in different settings (C5, P4, A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x				x		
CO3	x	x						
CO4		x		x				
CO5					x	x		

Course Content and Outcomes:

Content	Competencies	Number of Hours
Unit 1: Introduction to occupational therapy in mental health practice		
History of occupational therapy in mental health	1. Summarize the historical background of treating people with mental illness in the 19th and 20th century (C2)	13
Occupational therapy in mental health promotion	1. Explain mental health promotion, and factors that contribute to mental health and ill health (C2) 2. Explain the role of occupational therapy in promoting positive mental health (C2)	
Interviewing clients with mental illness	1. Apply interviewing skills that are essential in mental health practice (client preparation and active listening) using role play in different case scenarios (acute, long term and community) (C3, P3, A3) 2. Apply interviewing skills that are essential in mental health practice (appropriate questioning and responding) using role play in different case scenarios (acute, long term and community) (C3, P3, A3)	
Treatment planning and implementation	1. Explain the factors related to client, therapist, activity and environment that influence treatment implementation and develop treatment plan for common psychosocial issues (C5) 2. Assess problems in activities of daily living and instrumental activities of daily living using various case studies (C5, P3, A3) 3. Select goals for common psychosocial issues in the scope of occupational therapy through case studies (C5, P3, A3) 4. Determine treatment planning for common psychosocial issues in the scope of occupational therapy using case studies (C5, P3, A3)	
Psychosocial occupational therapy practice settings	1. Explain the occupational therapy assessments and interventions used in acute and outpatient settings (C5) 2. Explain the occupational therapy assessments and interventions used in community, home health care and forensic and prisons (C5)	
Unit 2:Approaches in psychosocial occupational therapy		
Model of Human Occupation (MOHO)	1. Explain the theoretical concepts of MOHO (C5) 2. Explain the application of MOHO in mental health practice (C5) 3. Assess the clients based on MOHO case studies(C5, P3, A3) 4. Justify the application of MOHO based interventions for different case studies(C5, P3,	20

Content	Competencies	Number of Hours
	A3)	
Cognitive behavioural therapy (CBT)	1. Explain the theories (Bandura's social learning theory, Ellis's rational emotive therapy) underlying cognitive behavioural therapy (C5) 2. Explain the theories (Beck's cognitive therapy and Meichenbaum's cognitive behavioural modification) underlying cognitive behavioural therapy (C5) 3. Explain the theoretical assumptions, evaluation, intervention strategies, contributions and limitations of CBT (C5) 4. Justify the application of motivational interviewing technique in different situations, using case simulations (C5, P3, A3) 5. Justify the application of disputing irrational beliefs and scientific reasoning in different situations, using case simulations (C5, P3, A3)	
Psychodynamic approach	1. Explain the Freud's psychoanalytic theories, theoretical assumptions and occupational therapy evaluation based on Psychodynamic approach (C5) 2. Explain the occupational therapy intervention based on psychodynamic approach and its contributions and limitation (C5) 3. Evaluate using projective technique using case simulations (C5,P3, A3) 4. Justify the application of psychodynamic approach for different situations, through case simulations(C5, P3, A3)	
Behavioural approach	1. Explain the theoretical concepts underlying the behavioral approach, such as classical and operant conditioning (C5) 2. Explain the theoretical assumptions, contributions and limitations of behavioral approach (C5) 3. Explain the behavioral techniques and occupational therapy evaluation and intervention based on behavioral perspective (C5) 4. Evaluate using specific behavioural techniques (behavior shaping, chaining, modelling) using role play (C5, P3, A3) 5. Evaluate specific behavioural techniques (shaping, chaining, modelling) using case simulations (C5, P3, A3)	
Humanistic and Developmental Frame of reference	1. Explain the theoretical concepts of humanistic and developmental frame of reference (C5) 2. Justify the application of humanistic approach and developmental frame of reference in different situations, using case simulations(C5, P3, A3)	

Content	Competencies	Number of Hours
Unit 3:Intervention methods in psychosocial occupational therapy		
Therapeutic use of self	1. Explain the term 'therapeutic use of self' and therapeutic qualities necessary for an occupational therapist (C5) 2. Explain the issues that arise in a therapeutic relationship and factors to consider while terminating a therapeutic relationship with a client (C5)	22
Responding to signs and symptoms	1. Explain the three variables of a response to any symptom: self, environment and activity and the response strategies for common symptoms such as mania, depression and hallucinations that are seen in individuals with mental illness (C5) 2. Justify the response strategies for symptoms of depression through role-plays and discussions (C5, P3, A3) 3. Justify the response strategies for common psychiatric symptoms (mania, and hallucinations) through role-plays and discussions (C5, P3, A3,)	
Life skills Training	1. Explain the interventions for developing life skills including settings and teaching methods (C5) 2. Explain the application of occupational therapy approaches such as remedial and compensatory for individuals with psychosocial issues (C5) 3. Justify the use of teaching methods in different case scenarios with help of role play for individuals with psychosocial issues (C5, P4, A3) 4. Justify the application of remedial and compensatory methods in different case scenarios with help of role play for individuals with psychosocial issues (C5, P4, A3)	
Cognitive and sensorimotor activities	1. Explain the cognitive and sensorimotor impairments seen in individuals with mental illness and use of therapeutic activities in the intervention of clients with psychosocial issues (C5)	
Group therapy	1. Explain the purpose of group therapy, Cole's seven steps in conducting groups and guidelines for conducting therapeutic groups for low functioning clients (C5) 2. Explain the group protocol, and three styles of occupational therapy leadership in groups (C5) 3. Explain Mosey's development of group skills (C5) 4. Justify the drafted group protocol(C5, A3)	

Content	Competencies	Number of Hours
	5. Apply the Cole's seven steps in conducting groups with help of role play (C5, P4, A3) 6. Apply the guidelines of conducting groups for low functioning clients with help of role play (C5, P4, A3)	
Social skills training	1. Explain the need for and assessment of social skills training, and assertiveness training in psychosocial issues (C5) 2. Explain the intervention strategies including self-control and behavioural techniques used in social skills training (C5) 3. Justify the application of assertiveness training, with the help of role play for various case scenarios (C5, P4, A3) 4. Justify the application of self –control strategies in different situations for individuals with psychosocial issues using case simulations (C5, P4, A3)	
Working with families of clients with mental illness	1. Explain the family burden, coping strategies of families with mental illness and occupational therapy interventions for families of clients with mental illness (C2)	
Unit 4: Occupational therapy in common psychiatric conditions		
Schizophrenia and other psychotic disorders	1. Explain the impact of schizophrenia on occupational performance (C5) 2. Explain the occupational therapy evaluation and intervention in schizophrenia and other psychotic disorders (C5)	10
Substance related disorders	1. Explain the impact of substance related disorder on occupational performance (C5) 2. Explain the role of occupational therapy in substance related disorders that include the group interventions and occupational therapy in de-addiction centers (C5)	
Mood disorders	1. Explain the impact of mood disorders on occupational performance (C5) 2. Explain the occupational therapy evaluation and interventions for clients with mood disorder (C5)	
Anxiety and psychosomatic disorders	1. Explain the impact of anxiety and psychosomatic disorders on occupational participation (C5) 2. Explain the occupational therapy assessment and treatment strategies such as sensory modulation intervention and self-management techniques (C5)	
Personality disorders	1. Explain the occupational therapy dysfunction and evaluation of personality disorder (C5) 2. Explain the management of socio-occupational	

Content	Competencies	Number of Hours
	dysfunction manifested in personality disorder (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	39	117
Practical	26	78
Revision	-	-
Assessment	-	-
Total	**65**	**195**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz/ Viva	End Semester Exam (Theory)
Assignments/Presentations	

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x		
Quiz / Viva		x	x	x	
Assignments/Presentations		x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Bryant, W., Fieldhouse, J., Bannigan, K. and Creek, J. Creek's occupational therapy and mental health, 5th ed. Elsevier; 2014. 2. Cara E, Macrae A. Psychosocial Occupational Therapy: An evolving practice. 3rd ed. USA: Delmar Cengage Learning; 2012.
Additional References	1. Krupa, T., & Krish .B. Bruce M, Borg B. Psychosocial frames of reference – Theories, Models, and Approaches for Occupation – Based Practice. 4th ed. NJ: Slack Incorporated; 2015 2. Early MB. Mental Health Concepts and Techniques approach the Occupational Therapy Assistant. 5th ed. USA: Lippincott Williams & Wilkins; 2016. 3. Atchison, B., &Dirette, D. Conditions in Occupational Therapy: Effect on Occupational Performance. Wolters Kluwer Health; 2016

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**School Based Occupational Therapy**
Course Code	**OCT4241**
Academic Year	Fourth year
Semester	VIII
Number of Credits	3
Course Prerequisite	Assessments in Occupational Therapy-I & II, Development across the Life Span, Paediatrics, Activities and Occupations, Occupational Therapy Interventions, Enabling Occupations, Occupational Therapy in Community Practice, Occupational Therapy Practice Issues
Course Synopsis	1. This course explains major legislations for general education in India. 2. It also describes the role of different educational team members working with children in schools. 3. It explains occupational therapy evaluations and interventions to support participation of children in schools. 4. It further explains occupational therapy strategies that can be used with stakeholders parents and teachers for successful school participation

Course Outcomes (COs):
At the end of the course student shall be able to:

CO1	Explain the provisions of Right to Education Act and other legislations for education in India (C2)
CO2	Identify the role of occupational therapists and other team members of education system working with children (C3)
CO3	Justify occupational therapy evaluation and interventions for children in school setting (C5)
CO4	Explain the occupational therapy strategies for parents and teachers to support children for successful school participation (C5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2	x		x					
CO3						x	x	
CO4					x			x

Contents	**Competencies**	**Number of Hours**
Unit-1: Introduction of the role of occupational therapy in schools		
Legislations for Indian education system	1. Explain the concept of Inclusive Education for children with special needs (C2)	8

Contents	Competencies	Number of Hours
	2. Explain the provisions for Right to Education (RTE) Act for special and general education and Samagra Shiksha program including Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan (C2)	
Occupational therapists' roles and services in schools	1. Identify the roles of occupational therapists working with children in schools (C3) 2. Explain the emerging role of occupational therapists in school as tele-consultant (C2)	
Unit-2: Occupational Therapy Evaluations and Interventions in schools		
	1. Explain the occupational therapy evaluation process in school setting includes referral, occupational profile, assessment, analysis and occupational performance (C5) 2. Outline the various types of occupational therapy assessment tools (developmental, functional, child reported health related quality of life) used in school setting (C2) 3.Utilize Apply School Function Assessment (SFA) using case simulation (C3)	28
Occupational therapy deliver planning in school	1. Explain the process of development and documentation of the Individualized Educational Plan (IEP) (C5) 2. Explain the process of developing the Individualized transition plan from school to post-school program for youth (C5)	
Occupational therapy Intervention strategies in schools	1. Justify the use of occupational therapy strategies in supporting students with ASD and ADHD (C5) 2. Justify the use of occupational therapy strategies in supporting children with specific learning disabilities (C5) 3. Explain the emerging role of occupational therapy in school mental health (C5) 4. Explain occupational therapy strategies for children with emotional disturbances (C5) 5. Explain the occupational therapy intervention strategies for bullying prevention and friendship promotion (C5) 6. Explain the occupational therapy strategies to facilitate mealtime participation in a school setting (C5) 7.Explain the occupational therapy intervention strategies for children with obesity (C5) 8. Explain backpack strategies for parents and students to prevent back injury (C5)	
Unit-3: Working with the teachers, students and parents		
Occupational therapy strategies to support teachers, parents and students	1. Explain the occupational therapy strategies to promote successful homework for children (C5) 2. Explain the occupational therapy strategies to support teacher for successful participation of	3

Contents	Competencies	Number of Hours
	children (C5) 3.Explain the occupational therapy strategies to support safe school transportation (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	08	24
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)		
Case Based Learning (CBL)	05	15
Revision	-	-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz/Viva	End Semester Exam (Theory)
Assignments/Presentations	--

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Mid Semester / Sessional Examination 1	x	x	x	
Quiz / Viva	x	x		
Assignments/Presentations	x		x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Clark GF, Rioux JE, Chandler BE. Best Practices for Occupational Therapy in Schools.2nd ed. AOTA press; 2019. 2. https://www.aota.org/About-Occupational-Therapy/Patients-Clients/ChildrenAndYouth.aspx#school
Additional References	1. Case-Smith, J., O'Brien J. Occupational therapy for children. 7th ed. Missouri: Mosby Elsevier; 2014. 2. Schell BB, Gillen G, Scaffa ME, Cohn ES. Willard & Spackman's Occupational Therapy. 12th ed. USA: Lippincott Williams & Wilkins; 2013. 3. https://www.aota.org/Practice/Children-Youth/Mental%20Health/School-Mental-Health.aspx 4. https://mhrd.gov.in/rte

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Occupational Therapy in Mental Health Promotion and Prevention**
Course Code	**OCT4242**
Academic Year	Fourth year
Semester	VIII
Number of Credits	3
Course Prerequisite	Development across the Life Span, Activities and Occupations, Occupational Therapy in Community Practice
Course Synopsis	1. This course outlines the occupational therapy health promotion and disease prevention interventions. 2. It explains the theoretical models for health promotion and prevention. 3. It also explains the health promotion and prevention program development at individual, school, community, and family.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Explain the theories in mental health promotion and prevention for potential application to occupational therapy. (C5)
CO2	Explain the occupational therapy program development in mental health promotion and prevention of disease u(C5)
CO3	Identify the health risk and benefits of mental health promotion. (C3)
CO4	Develop occupation-centered community program. (C3)
CO5	Explain the health promotion and prevention programs used in occupational therapy (C5,A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2				x		x		
CO3	x	x						
CO4					x	x		
CO5			x	x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:Designing Health Promotion Interventions		
Health Promotion Assessment and Program Development	1. Explain occupation centered community program development for health promotion (C2) 2. Identify community program goals, objectives, and activities (C3)	19

Content	Competencies	Number of Hours
	3. Discuss the health promotion program development with case examples (C4, A2)	
Promoting Mental Health and Emotional Wellbeing	1. Explain the terms such as mental health, emotional wellbeing, positive psychological well- being, positive social functioning, and mental health promotion (C2) 2. Explain the Model of Complete Mental Health (C5) 3. Identify the characteristics of mentally healthy people (C3, A2) 4. Explain the process of assessing mental health (C5) 5. Identify the benefits of mental health promotion at individual and community level(C3, A2) 6. Select the principles of mental health promotion (C3) 7. List the techniques for mental health promotion (concepts of resilience, emotional intelligence, self-efficacy, learned optimism, hope, social support, and spirituality) (C4) 8. Discuss the health promotion intervention with case scenario (C5, A2)	
Health Behavior Frameworks for Health Promotion Practice	1. Explain the Trans theoretical Model.(C5) 2. Justify the application of Trans theoretical model, to health promotion in occupational therapy (C5, A3) 3. Justify the application of health belief model, to health promotion in occupational therapy (C5, A3) 4. Justify the application of PRECEDE-PROCEED Model, to health promotion in occupational therapy (C5, A3) 5. Explain the Social Ecological Model of Health (C5) 6. Justify the application of Social Ecological Model of Health in occupational therapy (C5, A3) 7. Justify the application of health promotion models in occupational therapy with various case example (C5, A3)	
Unit 2: Occupational Therapy's Role in Health Behavior Interventions		
Promoting Exercise and Physical Activity	1. Explain terminologies used to explain physical activity such as occupational physical activity, Exercise, household physical activity, inactivity, insufficient physical activity, leisure time inactivity, leisure physical activity and transportation physical activity (C2) 2. Identify the barriers to physical activity	20

Content	Competencies	Number of Hours
	engagement (C3, A3) 3. Identify the health risks associated with physical inactivity (C3, A3) 4. Evaluate the health benefits of engaging in physical activity across the life span (C5, A3) 5. Explain the assessment measures of physical activity such as Activity Diary, Pedometer, Population-Based Surveys of the Environment (C5) 6. Explain the application of Trans theoretical Model for physical activity program development (C5) 7. Explain occupational therapy's role in promoting physical activity (C5)	
Preventing substance abuse in adolescents and adults	1. Explain the occupational perspective on substance abuse prevention (C5) 2. Explain the trans theoretical model of behaviour change with goals related to each stage for substance abuse prevention (C5) 3. Explain the key components of substance abuse prevention programs (school, family, community members) (C5) 4. Explain the occupational therapy prevention programs at school, family, community (C4, A3) 5. Explain the occupational therapy screening and intervention decision in substance abuse prevention programs (C5)	
Mental health in adolescents	1. Explain the problems in adolescents in mental health issues (C5) 2. Identify the occupational therapy interventions and programs for suicide prevention (C3) 3. Identify the prevention programs for bullying and school violence (C3) 4. Explain the prevention programs for suicide, bullying and school violence (C5, A3)	
Promoting Health and Occupational Participation With Caregivers	1. Explain the conceptual frameworks for caregiving (C5) 2. Explain the challenges of caregiving (C5, A3) 3. Explain health promotion and wellbeing issues for the caregivers (C5) 4. Choose the evaluation and assessment for caregivers (C3) 5. Explain the interventions for caregivers (C5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	7	21
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	6	18
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision		-
Assessment	-	-
Total	**39**	**117**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Mid Semester/Sessional Exam (Theory)
Quiz	End Semester Exam (Theory)
Assignments/Presentations	**--**

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Mid Semester / Sessional Examination 1	x	x	x	x	
Quiz / Viva	x	x	x	x	
Assignments/Presentations		x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Scaffa, M., Reitz, S., & Pizzi, M. Occupational therapy in the promotion of health and wellness. Philadelphia: F.A. Davis Co; 2010 2. Bryant, W., Fieldhouse, J., Bannigan, K., Creek, J., & Lougher, L. Creek's Occupational therapy and mental health. 5th ed. Elsevier; 2014
Additional References	1. Cara E, Macrae A. Psychosocial Occupational Therapy: An evolving practice. 3rd ed. USA: Delmar Cengage Learning; 2012

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Evidence Based Practice- II**
Course Code	**OCT4201**
Academic Year	Fourth year
Semester	VIII
Number of Credits	2
Course Prerequisite	Occupational Therapy Interventions, Enabling Occupations, Basic Biostatistics and Research Methodology, Evidence Based Practice-I
Course Synopsis	1. This course provides opportunity for students to carry out a research proposal under the supervision of a faculty advisor. 2. It also emphasises on dissemination of the results under the supervision of a faculty advisor.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Develop skills to carry out a research study based on the protocol in a small team. (C3, P4, A4)
CO2	Develop basic skills to disseminate the research findings through presentation and manuscript submission. (C3, P4, A4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1			x	x				
CO2					x	x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Carrying out the research	1. Apply skills necessary for collecting data as per the proposal (C3, P4, A4) 2. Apply skills necessary for analyzing the data (C3, P4)	16
Disseminating study results	1. Develop basic skills necessary to write a research report in a specified format for presentation (C3, P4) 2. Develop basic skills necessary to write a research report in a format for manuscript for publication (C3, P4)	10

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Small group discussion (SGD)	26	78
Revision	-	-
Assessment	-	--
Total	**26**	**78**

Assessment Methods:		
Formative:	**Summative:**	
Assignments/Presentations	Presentations	
Mapping of Assessment with COs:		
Nature of Assessment	**CO1**	**CO2**
Mid Semester / Sessional Examination 1	-	-
Quiz / Viva	-	-
Assignments/Presentations	x	x
End Semester Exam	-	-
Feedback Process:	Mid-Semester Feedback	
	End-Semester Feedback	
Main Reference:	1. Kumar, R. Research methodology: A step-by-step guide for beginners. Los Angeles: SAGE. 2013 2. Taylor RR. Kielhofner's Research in Occupational Therapy: Methods of Inquiry for Enhancing Practice. FA Davis; 2017.	
Additional References	1. Publication Manual of the American Psychological Association. Washington, DC: American Psychological Association; 2010.	

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Clinical Fieldwork- VII**
Course Code	**OCT4231**
Academic Year	Fourth year
Semester	VIII
Number of Credits	5
Course Prerequisite	Assessments in Occupational Therapy- I & II, Basic Competencies for Occupational Therapists- I & II, Activities and Occupations, Enabling Occupations, Occupational Therapy Interventions, Clinical Fieldwork-I, II, III, IV, V & VI.
Course Synopsis	1. This course provides opportunities for the students to evaluate clients and/or caregivers and establish treatment goals, under supervision in the areas of paediatrics, mental health and community settings. 2. It encourages students to practice in a client-centered manner through collaboration with clients and/or caregivers for planning and implementing occupational therapy interventions. 3. It also facilitates evidence-based practice in planning and implementing occupational therapy interventions, under supervision for common paediatrics and mental health conditions in acute and community settings. 4. It further provides an opportunity for students to practice documentation of occupational therapy process, under supervision for enhancing evidence based practice.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Evaluate the clients and/ or caregivers to identify the prioritized occupations, under supervision for common paediatrics and mental health in acute and community settings. (C5, P5, A5)
CO2	Formulate treatment goals and plan intervention techniques under supervision in collaboration with clients and/or caregivers for common paediatrics and mental health conditions in acute and community settings. (C6, P6, A5)
CO3	Develop skills to implement intervention techniques, under supervision for clients with common paediatrics and mental health conditions in acute and community settings. (C6, P6, A5)
CO4	Develop skills to document the process of occupational therapy (evaluation, interventions, progress), under supervision. (C6, P6)
CO5	Develop professional attributes in the clinical areas of paediatrics, mental health and community settings. (C6, P6, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):								
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2		x		x				
CO3						x	x	
CO4						x		
CO5							x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Practice occupational therapy process in the areas of Pediatric-habilitation, Mental Health & Psychosocial rehabilitation and Community rehabilitation, under supervision.		
1. Evaluate the clients to identify the prioritized occupations, under supervision for common pediatrics and mental health conditions. (C5) (P6) (A5) 2. Formulate treatment goals based on problem identification using OTPF level III evaluation format for clients with common pediatrics and mental health conditions in acute and community settings, under supervision. (C6) (P6) (A5) 3. Plan occupational therapy intervention techniques, under supervision for clients with common pediatrics and mental health conditions (C6) (P6) (A5) 4. Develop skills to implement occupational therapy interventions, under supervision for clients with common pediatrics and mental health conditions. (C6, P6, A5) 5. Build the skill of documenting the process of occupational therapy (evaluation, intervention and progress), under supervision. (C6) (P6) 6.Develop professional attributes in clinical settings (initiation, observation skill, problem solving, time management, communication skills, self-directed learning, participation in the supervisory process, reflective learning) (C6) (P6) (A5)		Clinical Discussions (42 hours) Clinical practice (153 hours)

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	42	84
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	153	306
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**195**	**390**

Assessment Methods					
Formative:	**Summative:**				
Viva	End of Posting Exam				
Assignments/Presentations	End- Semester Exam (Practical)				
Clinical assessment (OSCE, OSPE, WBPA)	--				
Clinical/Practical Log Book	--				
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Viva	-	x	x	-	-
Assignments/Presentations	x	x	x	x	-
Any others: WPBA	x	-	-	-	x
Clinical/Practical Log Book	-	-	-	-	x
End of Posting Exam	x	x	x	x	x
End- Semester Exam (Practical)	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J OccupTher. 2014 Apr; 68 (Suppl. 1): S1-S48.				
	2. Clinical Format				

SEMESTER IX

INTERNSHIP

Manipal College of Health Professions	
Name of the Department	Department of Occupational Therapy
Name of the Program	Bachelor of Occupational Therapy (BOT)
Course Title	**Internship**
Course Code	**--**
Academic Year	Fifth year
Semester	IX
Number of Credits	6 months
Course Prerequisite	1. Student should have knowledge of occupational therapy process, occupational dysfunctions, and various practice settings. 2. Student should have skills to conduct basic occupational therapy evaluations and interventions in an ethical and professional manner under supervision.
Course Synopsis	1. This course provides opportunities for students to practice occupational therapy under graded supervision, in different areas using evidence-based and client-centered practice. 2. This course facilitates the student's transition to becoming an independent practitioner.

Course Outcomes (COs): **At the end of the course student shall be able to:**	
CO1	Evaluate the clients and/ or caregivers to identify the prioritized occupations, in different practice setting. (C5, P5, A5)
CO2	Formulate treatment goals and plan intervention techniques in collaboration with clients and/or caregivers in different practice settings. (C6, P6, A5)
CO3	Implement intervention techniques, under supervision for clients in different practice settings. (C6, P6, A5)
CO4	Adapt skills to document the process of occupational therapy (evaluation, interventions, progress) in different practice settings. (C6, P6)
CO5	Develop professional attributes in the clinical areas of paediatrics, mental health and community settings. (C6, P6, A5)
CO6	Display entrepreneurship and/or leadership to practice independently as well as in collaboration with the interdisciplinary health care team (C6, P6, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x			x			
CO2		x		x				
CO3						x	x	
CO4						x		
CO5							x	
CO6							x	x

Course Content and Outcomes:

Content	Competencies	Number of Hours
	1. Evaluate clients to identify the occupational disruptions they are experiencing. (C5, P6, A5) 2. Formulate treatment goals based on problem identification, in collaboration with the client, caregiver and/or other health care team members (C6, P6, A5) 3. Plan contextually relevant and evidence-based occupational therapy interventions (C6, P6, A5) 4. Deliver appropriate evidence-based occupational therapy interventions, in keeping with the ethical code of occupational therapy practice. (C6, P6, A5) 5. Build the skill of documenting the process of occupational therapy (evaluation, intervention and progress). (C6, P6) 6.Develop professional attributes in clinical settings (initiation, observation skill, problem solving, time management, communication skills, self-directed learning, participation in the supervisory process, reflective learning) (C6, P6, A5)	1248

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	1248	-
Practical	-	-
Total	**1248 (minimum)**	

Assessment Methods:	
Formative:	**Summative:**
Viva	-
Assignments/Presentations	-
Clinical assessment (OSCE, OSPE, WBPA)	-
Clinical/Practical Log Book	-

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Assignments/Presentations	x	x	x	x	-	x
Any others: WPBA	x	-	-	-	x	x
Clinical/Practical Log Book	-	-	-	-	x	
End of Posting Exam	x	x	x	x	x	

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process. 3rd ed. Am J OccupTher. 2014 Apr; 68 (Suppl. 1): S1-S48. 2.Clinical Format

7. Program Outcomes (POs) and Course Outcomes (COs) Mapping

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
I	ANA1101	Anatomy-I	3	CO1 CO2							
I	ANA1111	Anatomy Practical-I	2		CO1 CO2						
I	PHY1101	Physiology-I	2	CO1 CO2 CO3 CO4							
I	OCT1101	Introduction to Occupational Therapy	4	CO1 CO4	CO2 CO3		CO1		CO3		
I	OCT1102	Basic Competencies for Occupational Therapists	3	CO1	CO2 CO3	CO4		CO1	CO2	CO3	
I	OCT1131	Clinical Fieldwork-I	6	CO1	CO1 CO3	CO2 CO4	CO2 CO4	CO3			
II	ANA1201	Anatomy-II	2	CO1							
II	ANA1211	Anatomy Practical-II	2		CO1						
II	PHY1201	Physiology-II	2	CO1 CO2 CO3 CO4							
II	BIC1201	Biochemistry	3	CO1 CO2 CO3 CO4							
II	CSK1001	Communication skills	2		CO3	CO4		CO1 CO2		CO1 CO2 CO3 CO4	
II	EIC1001	Environmental Sciences	2	CO1 CO2 CO3		CO4 CO5	CO2		CO1 CO3 CO5	CO4	
II	EIC1001	Indian Constitution	2	CO1		CO3	CO2 CO5	CO2	CO4	CO1 CO3 CO5	CO4
II	OCT1201	Assessments in Occupational Therapy-I	2	CO2 CO3	CO3		CO1 CO2	CO4	CO1 CO4		
II	OCT1211	Assessments in Occupational Therapy-I (Practical)	2	CO2 CO3	CO3		CO1 CO2	CO4	CO1 CO4		
II	OCT1202	Basic Competencies for Occupational Therapists	3	CO1	CO1			CO2	CO2		
III	PAT2103	Pathology	3	CO1 CO2 CO3 CO4	CO3 CO4						
III	MCB2102	Microbiology	2	CO1 CO2	CO4						

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
				CO3 CO4							
III	OCT2101	Biomechanics and Kinesiology	3	CO1 CO2	CO2 CO3						
III	OCT2102	Assessments in Occupational Therapy- II	3	CO1 CO3	CO2 CO3		CO2	CO4	CO1		
III	OCT2111	Assessments in Occupational Therapy- II (Practical)	2	CO1 CO3	CO2 CO3		CO2	CO4	CO1		
III	OCT2151	Occupational Therapy Project	2	CO1		CO2 CO3	CO4	CO3	CO1	CO4	CO2
III	OCT2131	Clinical Fieldwork-II	2	CO1 CO2	CO3		CO4	CO1 CO2			
III	*** ****	Open Elective-I	3	*Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department*							
IV.	PHC2203	Pharmacology	3	CO1 CO2 CO3 CO4							
IV.	CPY2201	Clinical Psychology	3	CO1 CO4 CO5 CO6					CO2 CO3 CO5 CO6	CO1 CO2 CO3	
IV.	OCT2201	Development Across the Life Span	3	CO1 CO2	CO2 CO3						
IV.	OCT2202	Activities and Occupations	3	CO1 CO4	CO2 CO3				CO3 CO4		
IV.	OCT2211	Activities and Occupations (Practical)	2	CO1 CO4	CO2 CO3				CO3 CO4		
IV.	OCT2231	Clinical Fieldwork-III	6	CO3	CO1 CO2		CO2 CO4	CO1		CO4	
V	NEP3101	Neurosciences and Paediatrics	3	CO1 CO2	CO1 CO2						
V	ORT3101	Orthopaedics	2	CO1 CO2 CO3 CO4	CO4						
V	OCT3101	Occupational Therapy Interventions	2	CO1 CO2	CO1 CO3	CO4 CO5			CO2 CO4	CO3 CO5	
V	OCT3111	Occupational Therapy Interventions (Practical)	2	CO1 CO2	CO1 CO3	CO4 CO5			CO2 CO4	CO3 CO5	
V	OCT3102	Enabling Occupations	3	CO1	CO2 CO3					CO2 CO3	
V	OCT3131	Clinical Fieldwork-IV	5	CO2	CO1 CO2		CO5	CO1 CO4	CO3	CO3 CO5	

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
V	*** ****	Open Elective-II	3	*Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department*							
VI	BST3201	Biostatistics and Research Methodology	3	CO1 CO2 CO3 CO5 CO6	CO4						
VI	MED3201	General Medicine	3	CO1 CO2 CO3							
VI	OCT3221	Occupational Therapy in Orthopaedics and Surgical conditions	3	CO1 CO2	CO2 CO3		CO3		CO1		
VI	OCT3222	Occupational Therapy in Neurological, Geriatric and Medical conditions	3	CO1	CO2 CO3				CO3	CO1	
VI	OCT3241	Orthotics in Occupational therapy	3	CO1 CO2	CO2 CO3	CO3		CO4	CO4		
VI	OCT3242	Ageing and Occupational Therapy	3	CO1 CO3	CO5		CO2		CO4 CO5 CO6	CO6	CO4
VI	OCT3231	Clinical Fieldwork- V	5		CO1 CO2		CO2	CO1	CO3 CO4	CO3 CO5	
VII	SUR4101	General Surgery	3	CO1 CO2 CO3 CO4							
VII	CMS4102	Community Medicine and Sociology	3	CO1 CO2 CO4	CO1	CO5	CO3	CO3	CO2	CO4	
VII	OCT4101	Occupational Therapy Practice Issues	3	CO4			CO1	CO1	CO2	CO2 CO3	CO3
VII	OCT4102	Occupational Therapy in Community Practice	3	CO1 CO3	CO2	CO3					CO1 CO4
VII	OCT4103	Evidence-based practice-I	3	CO1	CO3		CO1		CO2	CO2 CO3	
VII	OCT4131	Clinical Fieldwork- VI	5	CO2	CO1 CO2		CO5	CO1 CO4	CO3	CO3 CO5	
VIII	CPS4201	Clinical Psychiatry	2	CO1 CO2	CO1		CO3	CO2		CO3	
VIII	OCT4221	Occupational Therapy for Children	4	CO1 CO2	CO2 CO3		CO4	CO1	CO3 CO4		
VIII	OCT4222	Occupational Therapy in Mental Health	4	CO1 CO3	CO2 CO3 CO4		CO4	CO5	CO2 CO5		
VIII	OCT4241	School-based Occupational Therapy	3	CO1 CO2		CO2	CO1	CO4	CO3	CO3	CO4

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
VIII	OCT4242	Occupational Therapy in Mental Health Promotion and Prevention	3	CO1 CO3	CO1 CO3	CO5	CO2 CO5	CO4	CO2 CO4		
VIII	OCT4201	Evidence Based Practice-II	2			CO1	CO1	CO2	CO2		
VIII	OCT4231	Clinical fieldwork- VII	5		CO1 CO2		CO2	CO1	CO3 CO4	CO3 CO5	
IX	-	Internship (6 months)	-		CO1 CO2		CO2	CO1	CO3 CO4	CO3 CO5 CO6	CO6

8. PROGRAM REGULATIONS

1. Program Structure

1.1. The program is a choice based credit system.
1.2. An academic year consists of two semesters – Odd semester (July - December) and Even semester (January – June)
1.3. Each semester shall extend over a minimum period of 13 weeks (a maximum up to 15 weeks) of academic delivery excluding examination days, semester breaks, declared holidays and non-academic events.
1.4. Medium of instruction shall be in English

2. Credit Distribution

2.1 Each semester would consist of 20 credits.
2.2 The credit distribution hours for Lecture, Tutorial, Practical, and Clinics are as follows:
Lecture (L) : 1 Hour /week = 1 credit = 13 hours
Tutorial (T) : 1 Hour /week = 1 credit
Practical (P) : 2 Hours/week = 1 credit
Clinics (CL) : 3 Hours/week = 1 credit
Note: For Basic sciences & Biostatistics course, 1 credit =15 hours (maximum)
2.3 A semester has courses structured as theory, practical, and clinics. Each course is of minimum 2 credits.
2.4 The maximum credits for theory course is 4; theory and practical combined is 5.
2.5 Internship is not credited.
2.6 Abbreviations / Symbols used in the credit distribution table:
L - Lectures, T - Tutorials, P -Practical, CL - Clinics, C - Total credits, IAC - Internal assessment component, ESE - End-Semester Exam, *Open Elective, #Program Elective

3. Weightage for Internal Assessment Component (IAC) and End Semester Exam (ESE)

3.1. Any one or a combination of marks distribution criteria applicable to a course.

IAC Weightage (%)	ESE Weightage (%)
30	70
50	50
100	Nil
Nil	100

3.2 The IAC component weightage for theory & practical is:
- 50% from Mid-semester examination
- 50% through Continuous assessment (as applicable to course)

3.3 For courses without continuous evaluation components, two sessional exams are conducted and the average of both sessional exams shall be considered as the final IAC.

4. Attendance

4.1 Minimum attendance requirements for each course is:
i. Theory : 75 %
ii. Clinics / Practical : 85 %
4.2 As per the directives of MAHE, there will be no consideration for leave on medical grounds. The student will have to adjust the same in the minimum prescribed attendance. No leverage will be given by the department for any attendance shortage.

4.3 Students requiring **leave** during the academic session should apply for the same through a formal application to the Head of Department through their respective Class In-charge/ Coordinator. The leave will be considered as absent and reflected in their attendance requirements.

4.4 No leverage will be given by the department for any attendance shortage.

4.5 Students, Parents/ guardians can access the attendance status online periodically. Separate intimation regarding attendance status would not be sent to parents/students.

4.6 Students having attendance shortage in any course (theory & practical) will not be permitted to appear for the End-semester exam of the respective course.

5. Examination

5.1 Exams are in two forms – Sessional examination (conducted as a part of internal assessment) and End semester examination.

5.2 The final evaluation for each course shall be based on Internal Assessment Components (**IAC**) and the End-semester examinations **(ESE)** based on the weightage (as indicated in clause 3.1) given for respective courses.

5.3 IAC shall be done on the basis of a continuous evaluation after assessing the performance of the student in mid semester exam, class participation, assignments, seminars or any other component as applicable to a course (as indicated in clause 3.2).

5.4 All the ESE for the odd semesters **(regular ESE)** will be conducted in November-December. All the ESE for the even semesters **(regular ESE)** will be conducted in May-June.

5.5 For those whose failed to clear any course during regular ESE, a **supplementary exam** is conducted 2 weeks immediately after the ESE result declaration to enable him / her to earn those lost credits. When a student appears for supplementary examination, the **maximum grade awarded is "C"** grade or below irrespective of their performance.

5.6 For core courses, the duration of ESE for a 2 credit course would be 2 hours (50 marks) and for a course with 3 or more credits, 3 hours (100 marks).

5.7 For pre / para clinical course and program elective, irrespective of credit (2 or 3), the ESE is conducted out of 50.

5.8 For non-core courses such as Communication skills, Open electives, Indian constitution, Environmental sciences or courses as specified in curriculum, only internal assessment is conducted.

6. Minimum Requirements for Pass

6.1. Pass in a course will be reflected as grades. No candidate shall be declared to have passed in any course unless he/she obtains not less than **"E" grade**

6.2. For core courses (theory / practical), candidate should obtain a minimum of 50% (IAC + ESE or as applicable to course) to be declared as pass.

6.3. For non-core including psychology, pre and para clinical course, a candidate should secure a minimum of 40% in ESE to be declared as pass.

6.4. For students who fail to secure a minimum of 'E' grade for a course, an **improvement examination** is conducted to improve their IAC marks. The student can appear for these examination along with the subsequent batches' mid semester / sessional exams. The marks obtained in other components of IAC can be carried forward without reassessment.

7. **Calculation of GPA and CGPA**

7.1. Evaluation and Grading (**Relative Grading**) of students shall be based on GPA (Grade Point Average) & CGPA (Cumulative Grade Point Average).

7.2. The overall performance of a student in each semester is indicated by the Grade Point Average (GPA). The overall performance of the student for the entire program is indicated by the Cumulative Grade Point Average (CGPA).

7.3. A ten (10) point grading system **(credit value)** is used for awarding a letter grade in each course.

Letter Grade	A+	A	B	C	D	E	F/I/DT
Grade points	10	9	8	7	6	5	0

DT – Detained/Attendance shortage, I – Incomplete

7.4 Calculation of GPA & CGPA: An example is provided

Course code	Course	Credits (a)	Grade obtained by the student	Credit value (b)	Grade Points (a x b)
AHS 101	Course - 1	4	B	8	32
AHS 103	Course - 2	4	B	8	32
AHS 105	Course - 3	3	A+	10	30
AHS 107	Course - 4	4	C	7	28
AHS 109	Course - 5	5	A	9	45
TOTAL		**20**	**-**	**-**	**167**

1st Semester GPA = Total grade points / total credits
167/20 = **8.35**

Suppose in **2nd semester GPA** = **7** with respective course credit 25

Then, $\mathbf{1st\ Year\ CGPA} = \frac{(8.35 \text{ x } 20) + (7 \text{ x } 25)}{20 + 25} = 7.6$

8. **Progression Criteria to higher semesters**

8.1 The eligibility for promotion to the next academic year is subject to securing the minimum academic performance as specified below:

- First to second year: a minimum of 70% of the credits at the end of the first year (includes first and second semester)
- Second to third year: a cumulative minimum of 80% of the credits at the end of the second year (includes first, second, third and fourth semester)
- Third year to fourth year: a cumulative minimum of 90% of the credits at the end of the third year (includes first, second, third, fourth, fifth and sixth semester)
- Student will be eligible for internship only after successful completion of the entire course work

8.2 First year students who have failed to secure a minimum credit (as specified in 8.1), will be on **probation for next one year.** During that period, he / she will not be permitted to attend the second year / III semester classes and have to appear only for exam (during December / May) in order to acquire the missing credits. In the event of failure to acquire the required credits even by the end of second year (70%), he / she has to **exit the program**. Exit from the program is applicable only for first year students failing to acquire the required credits.

8.3 From second year onwards, in the event of failing to acquire required credits (80% or 90%), the students will be on probation. During that period, he / she will not be permitted to attend the classes and have to appear only for exam (during December / May) in order to acquire the missing credits. From second year onwards, failure to acquire the required credits by the end of subsequent year will not result in exit from program.

8.4 However, the student must complete all the course work requirements and credits by a **maximum of double the program duration**. For e.g. 4 years' program, all the academic course work needs to be completed within 8 years. Failure to do so will result in exit from the program.

9. Semester Break

9.1 Students will have a semester break following their odd and even end-semester examinations.

10. Internship

10.1 Internship will not carry any credits and marks

10.2 Any components/ activities that need to be evaluated as part of internship will be assigned a grade without reflecting it in the CGPA.

10.3 The intern should abide by the rules and regulations of the organization during the period of internship.

10.4 An internship certificate with details of clinical/relevant areas of postings with hours will be issued to a candidate on completion of the Internship. The certificate must be authenticated by the HOD/Coordinator and HOI.

10.5 **Degree is awarded** only on successful completion of internship.

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**