# GAZİ UNIVERSITY FACULTY OF MEDICINE

# 2024-2025 EDUCATIONAL YEAR 2

**DIGESTIVE SYSTEM AND METABOLISM COMMITTEE**

 **(06.01.2025 – 13.03.2025)**

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| **COURSES** | **THEORETICAL** | **LABORATORY** | **PRACTICAL** | **TOTAL** |
| Anatomy | 26 | 5x2 |  | 36 |
| Biophysics | 8 | - |  | 8 |
| Physiology | 22 | 1x2 |  | 24 |
| Histology and Embryology | 12 | 6x2 |  | 24 |
| Medical Biochemistry | 44 | 6x2 |  | 56 |
| **TOTAL** | **112** | **36** |  | **148** |
| Elective Courses | 16 |  |  | 16 |
| **INTRODUCTION TO MEDICINE** |  |  |  |  |
| Problem Based Learning (PBL) |  |  |  |  |
| Clinical Skills Education (CSE) |  |  | 1x2 | 2 |
| Medical English | 16 |  |  | 16 |
| Analysis of 2nd Committee Exam and Feedback | 1 |  |  | 1 |
| **TOTAL** | **145** | **36** | **2** | **183** |
| **TOTAL FREE STUDY TIME** | **75 hours** |

Free study time definition: Individual studying courses intended for learning in accordance with the present committee.

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| 10.03.2025 | MONDAY | YEAR II APPLIED EXAM | Time: 08.30 |
| 11.03.2025 | TUESDAY | YEAR II APPLIED EXAM | Time: 08.30 |
| 12.03.2025 | WEDNESDAY | YEAR II APPLIED EXAM | Time: 08.30 |
| 13.03.2025 | THURSDAY | YEAR II THEORETICAL EXAM | Time: 09.30 |

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| Dean | Prof. Dr. Alper CEYLAN |
| Vice Dean | Assoc. Prof. Dr. Asiye UĞRAŞ DİKMEN |
| Vice Dean | Assoc. Prof. Dr. Nazmi Mutlu KARAKAŞ |
| Head Coordinator | Prof. Dr. Çiğdem ÖZER |
| Assistant Head Coordinator | Prof. Dr. Mehmet Ali ERGÜN |
| Assistant Head Coordinator | Prof. Dr. Akif Muhtar ÖZTÜRK |
| **Year II Coordinator** | **Assist. Prof. Dr. Duygu DAYANIR** |
| **Assistant Year II Coordinator** | **Teach. Assist. Dr. Pelin TÜRKKAN** |
| **Assistant Year II Coordinator** | **Teach. Assist. Dr. Nihan ÖRÜKLÜ** |
| **Assistant Year II Coordinator** | **Teach. Assist. Dr. Ayşe SOYLU** |

# MEMBERS OF COMMITTEE

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| **ANATOMY** | **HISTOLOGY****&****EMBRYLOGY** | **PHYSIOLOGY** | **MEDICAL BİOCHEMISTRY** |
| Dr. Meltem BAHÇELİOĞLU | Dr. Zeynep YIĞMAN | Dr. Şevin GÜNEY | Dr. Neslihan BUKAN |
| Dr. Kerem ATALAR | Dr. S. Esra ÖZKOÇER | Dr. A. Meltem SEVGİLİ | Dr. Orhan CANBOLAT |
|  | Dr. Duygu DAYANIR |  | Dr. Aylin SEPİCİ DİNCEL |
|  |  |  | Dr. Mustafa KAVUTÇU |
|  |  |  | Dr. Cengiz KARAKAYA |
|  |  |  | Dr. Kübranur ÜNAL |
|  **BIOPHYSICS** |  |  |  |
| Dr. Elçin ÖZGÜR BÜYÜKATALAY |  |  |  |
| Dr. Meriç Arda EŞMEKAYA |  |  |  |

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| ANATOMY LABORATORY | HISTOLOGY & EMBRYLOGY LABORATORY | PHYSIOLOGY LABORATORY | MEDICALBIOCHEMISTRYLABORATORY |
| Dr. Meltem BAHÇELİOĞLU | Dr. Çiğdem ELMAS | Dr. Şevin GÜNEY | Dr. Cengiz KARAKAYA |
| Dr. Kerem ATALAR | Dr. Gülnur TAKE KAPLANOĞLU | Dr. A. Meltem SEVGİLİ | Dr. Kübranur ÜNAL |
|  Dr. Ayşe SOYLU | Dr. C. Merve SEYMEN | Dr. Pelin TÜRKKAN | Dr. N. Samet YILMAZ |
|  Dr. Onur ARAS | Dr. Zeynep YIĞMAN |  |  |
|  |  Dr. Duygu DAYANIR |  |  |
|  |  Dr. S. Esra ÖZKOÇER |  |  |

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| **Clinical Skills Education Coordinator** | Prof. Dr. Nurten İNAN |
| **Elective Course Coordinator** | Assoc. Prof. Dr. Ergin DİLEKÖZ |

**DIGESTIVE SYSTEM AND METABOLISM COMMITTEE**

## Objective:

Should be able to tell the embryonic development, developmental anomalies and malformations of the structures related to the digestive system, the anatomical and histological structure of the digestive system, the physiological functions and establish the connections with the clinic. Should be able to explain biochemical properties and energy metabolism of digestion

# LEARNING OBJECTIVES

## Knowledge Based

**LO-200-3-1** Should be able to explain which germ leaves the digestive system develops from and in which weeks of development it occurs

**LO-200-3-2** Should be able to explain anatomical, histological structures and physiological functions of organs in digestive tract

**LO-200-3-3** Should be able to explain anatomical, histological structure and physiological functions of liver and biliary tract

**LO-200-3-4** Should be able to explain the histological, anatomical structure and functions of the spleen and pancreas

**LO-200-3-5** Should be able to explain the hormones secreted from digestive system

**LO-200-3-6** Should be able to explain motor movements and secretory functions in digestive tract

**LO-200-3-7** Should be able to say the events of digestion and absorption in the small intestine **LO-200-3-8** Should be able to explain vitamin and trace elements and energy mechanisms, regulation of body temperature

**LO-200-3-9** Should be able to tell lipid, protein and fat metabolism

**LO-200-3-10** Should be able to define thermodynamic systems, enthalpy and entropy, Heat transfer mechanisms: Heat transfer by convection, radiation and their physical formulations **LO-200-3-11** Should be able to have a problem-based approach to diseases

## Application Based (practical skills)

**LO-200-3-12** Should be able to demonstrate the ability to insert the nasogastric catheter **LO-200-3-13** Should be able to show digestive system structures on experimental animal **LO-200-3-14** Should be able to apply the studies in experimental subjects

## Skills Based (intellectual and transferable skills)

**LO-200-3-15** Should recognize the importance of cadaver and microscope studies

**LO-200-3-16** Should recognize the importance of experimental animal in physiology education

**LO-200-3-17** Should recognize that working with a living organ or subject is a responsibility

**LO-200-3-18** Should be aware of the responsibility of behaving in a way that will not harm the living object

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| **1st WEEK** | **06.01.2025****MONDAY** | **07.01.2025****TUESDAY** | **08.01.2025****WEDNESDAY** | **09.01.2025****THURSDAY** | **10.01.2025****FRIDAY** |
| **08:30-09:20** | Free Study Time | Free Study Time | Free Study Time | Free Study Time | Free Study Time |
| **09:30-10:20** | Free Study Time | Digestive system embryologyDr. Dayanır | MouthDr. Atalar | Gastrointestinal hormonesDr. Güney | Free Study Time |
| **10:30-11:20** | Digestive system embryologyDr. Dayanır | General principles of gastrointestinal functionDr. Güney | MouthDr. Atalar | Anterior abdominal wall and abdominal cavity topographyDr. Atalar | Regulation of glycolysis and energetics Dr. Bukan |
| **11:30-12:20** | Digestive system embryology Dr. Dayanır | General principles of gastrointestinal functionDr. Güney | PharynxDr. Bahçelioğlu | Inguinal canal Dr. Atalar | GluconeogenesisDr. Bukan |
| **13:30-14:20** | MouthDr. Atalar | Medical English | OesophagusDr. Bahçelioğlu | Free Study Time | Digestion in the mouth and deglutationDr. Güney |
| **14:30-15:20** | MouthDr. Atalar | Medical English | Digestion of carbohydratesDr. Bukan | Free Study Time | Digestion in the mouth and deglutationDr. Güney |
| **15:30-16:20** | Free Study Time | Elective Courses | Aerobic and anaerobic glycolysisDr. Bukan | Free Study Time | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | Free Study Time | Free Study Time | Free Study Time |

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| **2nd WEEK** | **13.01.2025****MONDAY** | **14.01.2025****TUESDAY** | **15.01.2025****WEDNESDAY** | **16.01.2025****THURSDAY**YEAR I THEORETICAL EXAM | **17.01.2025****FRIDAY**YEAR III THEORETICAL EXAM |
| **08:30-09:20** | Free Study Time | **Anatomy Lab 1**(Group C&D) | Free Study Time | Free Study Time | CSE |
| **09:30-10:20** | Oral cavity, oesophagus and associated structuresDr. Yığman | **Anatomy Lab 1**(Group C&D) | Gastric digestion, mechanical and chemical processesDr. Güney | Oral cavity, oesophagus and associated structuresDr. Yığman | CSE |
| **10:30-11:20** | Oral cavity, oesophagus and associated structuresDr. Yığman | **Anatomy Lab 1**(Group A&B**)** | Clinical and radiolgraphic anatomyDr.Bahçelioğlu | Reciprocal regulation of glycosis and gluconeogenesisDr. Bukan | CSE |
| **11:30-12:20** | Gastric digestion, mechanical and chemical processesDr. Güney | **Anatomy Lab 1**(Group A&B) | Clinical and radiolgraphic anatomyDr.Bahçelioğlu | Utilization of other carbohydrates to gylcolithic pathwayDr. Bukan | CSE |
| **13:30-14:20** | Gastric digestion, mechanical and chemical processesDr. Güney | Medical English | **Anatomy Lab 2**(Group C&D) | Large intestine and portal veinDr. Atalar | Free Study Time |
| **14:30-15:20** | Stomach Dr. Atalar | Medical English | **Anatomy Lab 2**(Group C&D) | Large intestine and portal veinDr. Atalar | Glycogenesis and glycogenolysisDr. Bukan |
| **15:30-16:20** |  Small intestine Dr. Atalar | Elective Courses | **Anatomy Lab 2**(Group A&B) | **Analysis of 2nd Committee Exam and Feedback** | Glycogenesis and glycogenolysisDr. Bukan |
| **16:30-17:20** | Free Study Time | ElectiveCourses | **Anatomy Lab 2**(Group A&B) | Free Study Time | Free Study Time |

**20.01.2025 - 31.01.2025**

**SEMESTER HOLIDAY**

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| **3rd WEEK** | **03.02.2025****MONDAY** | **04.02.2025****TUESDAY** | **05.02.2025****WEDNESDAY** | **06.02.2025****THURSDAY** | **07.02.2025****FRIDAY** |
| **08:30-09:20** | Free Study Time | **Histology Lab 1**(Group C&D)**Anatomy Lab 3**(Group A&B) | Free Study Time | Liver and biliary tractDr. Atalar | Free Study Time |
| **09:30-10:20** | The penthose phosphate pathwayDr. Dinçel | **Histology Lab 1**(Group C&D)**Anatomy Lab 3**(Group A&B) | The citric acid cycle and regulationDr. Karakaya | Liver and biliary tractDr. Atalar | Spleen andpancreasDr. Atalar |
| **10:30-11:20** | The penthose phosphate pathwayDr. Dinçel | **Histology Lab 1**(Group A&B)**Anatomy Lab 3**(Group C&D) | Biologic oxidation Dr. Canbolat | The respiratory chain, oxidative phophorylation and ATP synthesis Dr. Canbolat | LiverDr. Özkoçer |
| **11:30-12:20** | The citric acid cycle and regulationDr. Karakaya | **Histology Lab 1**(Group A&B)**Anatomy Lab 3**(Group C&D) | Biologic oxidationDr. Canbolat | The respiratory chain, oxidative phophorylation and ATP synthesisDr. Canbolat  | LiverDr. Özkoçer |
| **13:30-14:20** | The citric acid cycle and regulationDr. Karakaya | Medical English | **Biochemistry Lab 1**(Group A&B) | **Biochemistry****Lab 2**(Group C&D) | Functions of liverDr. Güney |
| **14:30-15:20** | Alimentary canalDr. Yığman | Medical English | **Biochemistry Lab 1**(Group A&B) | **Biochemistry****Lab 2**(Group C&D) | Functions of liverDr. Güney |
| **15:30-16:20** | Alimentary canalDr. Yığman | Elective Courses | **Biochemistry Lab 1**(Group C&D) | **Biochemistry****Lab 2**(Group A&B) | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | **Biochemistry Lab 1**(Group C&D) | **Biochemistry****Lab 2**(Group A&B) | Free Study Time |

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| **4th WEEK** | **10.02.2025****MONDAY** | **11.02.2025****TUESDAY** | **12.02.2025****WENESDAY** | **13.02.2025****THURSDAY** | **14.02.2025****FRIDAY** |
| **08:30-09:20** | PeritoneumDr. Bahçelioğlu | **Biochemistry Lab 3**(Group A&B) | Free Study Time | **Histology Lab 3**(Group C&D) | Free Study Time |
| **09:30-10:20** |  Peritoneum Dr. Bahçelioğlu | **Biochemistry Lab 3**(Group A&B) | Exocrine functions of pancreasDr. Güney | **Histology Lab 3**(Group C&D) | Posterior abdominal wall, abdominal aorta and inferior vena cavaDr. Atalar  |
| **10:30-11:20** | Pancreas and gallbladderDr. Özkoçer | **Biochemistry Lab 3**(Group C&D) | Digestion and absorption of dietary fatDr. Bukan | **Histology Lab 3**(Group A&B) | Posterior abdominal wall, abdominal aorta and inferior vena cavaDr. Atalar |
| **11:30-12:20** | Pancreas and gallbladderDr. Özkoçer |  **Biochemistry****Lab 3**(Group C&D) | Digestion and absorption of dietary fatDr. Bukan | **Histology Lab 3**(Group A&B) | Posterior abdominal wall, abdominal aorta and inferior vena cavaDr. Atalar |
| **13:30-14:20** | Role of biles in digestionDr. Güney | Medical English | **Histology Lab 2**(Group C&D) | Biosynthesis of fatty acisDr. Karakaya | Mechanical and chemical events in small intestineDr. Güney |
|  **14:30-15:20** | Exocrine functions of pancreasDr. Güney | MedicalEnglish | **Histology Lab 2**(Group C&D) | Oxidation of fatty acidsDr. Karakaya | Absorption and secretion of small intestineDr. Güney |
| **15:30-16:20** | Free Study Time | Elective Courses | **Histology Lab 2**(Group A&B) | Transport and storage of fat Dr. Bukan | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | **Histology Lab 2**(Group A&B) | Transport and storage of fatDr. Bukan | Free Study Time |

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| **5th WEEK** | **17.02.2025****MONDAY** | **18.02.2025****TUESDAY** | **19.02.2025****WENESDAY** | **20.02.2025****THURSDAY** | **21.02.2025****FRIDAY** |
| **08:30-09:20** | Free Study Time | Free Study Time | **Histology Lab 4**(Group A&B)**Biochemistry****Lab 4**(Group C&D) | Free Study Time | Free Study Time |
| **09:30-10:20** | Questions Analysis of 1st Committee Exam and Feedback | Free Study Time | **Histology Lab 4**(Group A&B)**Biochemistry****Lab 4**(Group C&D) | Free Study Time | Free Study Time |
| **10:30-11:20** | Synthesis transport and excretion of cholesterolDr. Karakaya | Digestion of proteins, enzymes in stomach and intestines, effects of hormonesDr. Karakaya | **Histology Lab 4**(Group C&D)**Biochemistry****Lab 4**(Group A&B) | System: Energy and metabolic rate in biological systemsDr.Büyükatalay | Utilization of carbon skeletones of aminoacids in citric acid cycleDr. Ünal |
| **11:30-12:20** | Synthesis, utilization and regulation of keton bodiesDr. Kavutçu | Transamination, oxidative deaminationDr. Karakaya | **Histology Lab 4**(Group C&D)**Biochemistry****Lab 4**(Group A&B) | System: Energy and metabolic rate in biological systemsDr. Büyükatalay | Glycine synthesis, catabolism utilization of synthetic reaction Dr. Ünal |
| **13:30-14:20** | Absorption and secretion of small intestineDr. Güney | MedicalEnglish | **Histology Lab 5**(Group A&B)**Biochemistry Lab 5**(Group C&D) | Urea cycle, its integration with citric acid cycleDr. Karakaya | Thermodynamic systems, enthalpy and entropy: Open, close and isolated systemsDr. Büyükatalay |
| **14:30-15:20** | Functions of colonDr. Güney | MedicalEnglish | **Histology Lab 5**(Group A&B)**Biochemistry Lab 5**(Group C&D) | Regulation of urea cycle and metabolic disordersDr. Karakaya | Thermodynamic systems, enthalpy and entropy: Open, close and isolated systemsDr. Büyükatalay |
| **15:30-16:20** | Free Study Time | ElectiveCourses | **Histology Lab 5**(Group C&D)**Biochemistry Lab 5**(Group A&B) | Free Study Time | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | **Histology Lab 5**(Group C&D)**Biochemistry Lab 5**(Group A&B) | Free Study Time | Free Study Time |

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| **6th WEEK** | **24.02.2025****MONDAY** | **25.02.2025****TUESDAY** | **26.02.2025****WENESDAY** | **27.02.2025****THURSDAY** | **28.02.2025****FRIDAY** |
| **08:30-09:20** | Free Study Time | **Histology Lab 6**(Group C&D)**Anatomy Lab 4**(Group A&B) | Free Study Time | Free Study Time | Free Study Time |
| **09:30-10:20** | Clinical and radiographic anatomyDr. Bahçelioğlu | **Histology Lab 6**(Group C&D)**Anatomy Lab 4**(Group A&B) | Free Study Time | Free Study Time | Free Study Time |
| **10:30-11:20** | Clinical and radiographic anatomyDr.Bahçelioğlu | **Histology Lab 6**(Group A&B)**Anatomy Lab 4**(Group C&D) | Metabolism of branched chain amino acids, aspartate, asparagine, glutamate, glutamine, proline,hydroxyproline, arginineDr. Ünal | Free Study Time | Heat regulation and transfer mechanismsDr. Büyükatalay |
| **11:30-12:20** | Metabolism of serine, alanine, cysteine, methionine and threonineDr. Ünal | **Histology Lab 6**(Group A&B)**Anatomy Lab 4**(Group C&D) | Metabolism of branched chain amino acids, aspartate, asparagine, glutamate, glutamine, proline,hydroxyproline, arginineDr. Ünal | Regulation of feeding, obesity and starvationDr. Sevgili | Heat regulation and transfer mechanismsDr. Büyükatalay |
| **13:30-14:20** | Metabolism of serine, alanine, cysteine, methionine and threonine Dr. Ünal | Medical English | Metabolism of nucleic acids Dr. Canbolat | Metabolism of histidine, lysine, hydroxylysine and aromatic amino acidDr. Ünal | Regulation of body temperatureDr. Sevgili |
| **14:30-15:20** | Metabolism of nucleic acidsDr. Canbolat | Medical English | Energy balance and transformationDr. Sevgili | Metabolism of histidine, lysine, hydroxylysine and aromatic amino acidDr. Ünal | Free Study Time |
| **15:30-16:20** | Metabolism of nucleic acidsDr. Canbolat | Elective Courses | Free Study Time | Free Study Time | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | Free Study Time | Free Study Time | Free Study Time |

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| **7th WEEK** | **03.03.2025****MONDAY** | **04.03.2025****TUESDAY** | **05.03.2025****WENESDAY** | **06.03.2025****THURSDAY** | **07.03.2025****FRIDAY** |
| **08:30-09:20** | Clinical and radiographic anatomyDr. Bahçelioğlu | **Physiology** **Lab1**(Group A) | **Physiology Lab1**(Group C) | Free Study Time | **Anatomy** **Lab 5** (Group A&B) |
| **09:30-10:20** | Clinical and radiographic anatomyDr. Bahçelioğlu | **Physiology** **Lab1**(Group A) | **Physiology Lab1**(Group C) | Free Study Time | **Anatomy** **Lab 5**(Group A&B) |
| **10:30-11:20** | Exercise PhysiologyDr. Sevgili | **Physiology** **Lab1**(Group B) | **Physiology Lab1** (Group D) | Biosynthesis of proteins and genetic code Dr. Canbolat | **Anatomy** **Lab 5**(Group C&D) |
| **11:30-12:20** | Exercise PhysiologyDr. Sevgili | **Physiology** **Lab1**(Group B) | **Physiology Lab1**(Group D) | Posttranslational modificationsDr. Canbolat | **Anatomy****Lab 5**(Group C&D) |
| **13:30-14:20** | Biosynthesis of proteins and genetic codeDr. Canbolat | Medical English | **Biochemistry****Lab 6**(Group A&B) |  Free Study Time | Natural potentials and electrical activities of tissuesDr.Eşmekaya |
| **14:30-15:20** | Biosynthesis of proteins and genetic codeDr. Canbolat | Medical English | **Biochemistry****Lab 6**(Group A&B) |  Free Study Time | Natural potentials and electrical activities of tissuesDr.Eşmekaya |
| **15:30-16:20** | Free Study Time | Elective Courses | **Biochemistry****Lab 6**(Group C&D) | Free Study Time | Free Study Time |
| **16:30-17:20** | Free Study Time | ElectiveCourses | **Biochemistry****Lab 6**(Group C&D) | Free Study Time | Free Study Time |

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| **8th WEEK** | **10.03.2025****MONDAY** | **11.03.2025****TUESDAY** | **12.03.2025****WENESDAY** | **13.03.2025****THURSDAY** | **08.03.2024****FRIDAY** |
|  **08:30-09:20** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****THEORETICAL****EXAM** |  |
| **09:30-10:20** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****THEORETICAL****EXAM** |  |
| **10:30-11:20** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****THEORETICAL****EXAM** |  |
| **11:30-12:20** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****APPLIED****EXAM** | **YEAR II****THEORETICAL****EXAM** |  |
| **13:30-14:20** | **YEAR II****APPLIED****EXAM** | Medical English | **YEAR II****APPLIED****EXAM** | Free Study Time |  |
| **14:30-15:20** | **YEAR II****APPLIED****EXAM** | Medical English | **YEAR II****APPLIED****EXAM** | Free Study Time |  |
| **15:30-16:20** | **YEAR II****APPLIED****EXAM** | Elective Courses | **YEAR II****APPLIED****EXAM** | Free Study Time |  |
| **16:30-17:20** | **YEAR II****APPLIED****EXAM** | ElectiveCourses | **YEAR II****APPLIED****EXAM** | Free Study Time |  |