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| **Course Code-Title** | **T** | **P** | **C** | **ECTS** |
| GM5040 Spectroscopic Methods in Food Analysis | 3 | 0 | 3 | 5 |
| **Course Content**  Electromagnetic radiation and interact with matter, Introduction to instrumental food analysis, Instrumental analysis techniques and principles, Refractometers, polarimetry, UV-vis absorption spectroscopy, Fluorometry, Infrared (IR) spectroscopy, Atomic absorption spectroscopy, Atomic emission spectroscopy, NMR spectroscopy, Mass spectroscopy, X-ray spectroscopy. | | | | |

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| **Course Code-Title** | **T** | **P** | **C** | **ECTS** |
| GM5053 Chromatographic Methods in Food Analysis | 3 | 0 | 3 | 5 |
| **Course Content**  Definition of chromatography, Properties of columns, Detectors, Mobile phases, Stationary phases. Types of chromatography, Gas chromatography, Gas chromatography/Mass spectrometry, Thin layer chromatography, Column chromatography, Paper chromatography, High pressure liquid chromatography, High pressure liquid chromatography/Mass spectrometry, Applications of chromatography techniques in food analysis, Calculation of results. | | | | |

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| **Course Code-Title** | **T** | **P** | **C** | **ECTS** |
| GM5049 Solving Techniques | 2 | 2 | 3 | 5 |
| **Course Content**  Solving without chemical reaction, Solving with heat and electrical energy, Solving with chemical reaction without oxidation, Solving with oxidation and solving with reduction, Solving with oxidizing processes, Dry thawing, Wet thawing, Solving in open system, Solving in closed system, Solving with microwave in closed system, Microwave Fundamentals of solving with, Organic solvents, Inorganic solvents. | | | | |