**Module Handbook**

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| **Module Name** | Chromatography | | | | |
| **Module Level** | Higher Diploma | | | | |
| **Code, if applicable** | VKD428 | | | | |
| **Subtitle, if applicable** | - | | | | |
| **Courses, if applicable** | - | | | | |
| **Semester(s) in which the module is taught** | 4th semester | | | | |
| **Person responsible for the module** | Bayu Wiyantoko, M.Sc. | | | | |
| **Lecturer** | Bayu Wiyantoko, M.Sc.<br>Ganjar Fadillah, M.Si. | | | | |
| **Language** | Bahasa Indonesia | | | | |
| **Relation to curriculum** | compulsory | | | | |
| **Type of teaching, contact hours** | Lecture (face to face teaching, structured activities, independent study and exam): 11.3 hours x 16 weeks per semester | | | | |
| **Workload** | Total workload | 91 hours; 2CU | | | |
| | | Face to face teaching | Structured activities | Independent study | Exam |
| | Hours | 23 | 28 | 28 | 11 |
| **Credit Points** | 2 CU/3.4 ECTS | | | | |
| **Requirements according to the examination regulations** | 75% minimum requirements of attendance | | | | |
| **Recommended prerequisites** | Analytical Chemistry | | | | |
| **Module objectives/intended learning outcomes** | PLO 3: Able to express basic concepts of chemistry, chemical analysis, operation, and maintenance of chemical instruments that can be applied in their work<br>Subject LO:<br>Students are able to describe (K3) the basic concepts and working principles of chromatographic instrumentation<br>Students are able to apply (K3) chromatographic analysis techniques<br>Students are able to process (K4) and interpret (K2) data from chromatography results qualitatively and/or quantitatively | | | | |
| **Content** | 1. Basic concepts of chromatography<br>2. Principles and techniques of both conventional and instrumentation chromatographic analysis<br>3. Interpretation of test results from data qualitatively and quantitatively. | | | | |
| **Study and examination requirements and forms of examination** | Midterm (35%), presentation (10%), final exam (35%), assignment (20%) | | | | |
| **Media employed** | Google classroom, youtube, zoom meeting, google form, google doc | | | | |

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| **Reading list** | 1. Cazes, J., Scot, R.P.W., 2002, Chromatography Theory, Marcel Dekker Inc, New York<br>2. Grob, R.L., 1999, Modern Practice of Gas Chromatography, John Wiley & Sons<br>3. Harvey, D., 2000, Modern Analytical Chemistry, McGraw-Hill Companies, Inc., New York<br>4. Heftman E., 2004, Chromatography, Elsevier, Oxford<br>5. Khopkar, S., M., 2004, Basic Concepts of Analytical Chemistry 2nd Edition, New Age International (P) Ltd., New Delhi, India<br>6. Singh, R., 2002, Chromatography, Naurang Ray for Mittal Publications, Mohan Garden, New Delhi |