**Course code:** ……. **Plan position:** ……

## A. INFORMATION ABOUT THE COURSE

### B. Basic information

| | |
|---|---|
| Name of course | **Science and Technology Information** |
| Field of studies | Chemical Technology |
| Level of studies | First degree |
| Profile of studies | General academic |
| Form of studies | Stationary |
| Specialty | 1. Chemical process technology<br>2. Bioengineering<br>3. Chemistry and technology of cosmetics |
| Unit responsible for the field of studies | Faculty of Chemical Technology and Engineering/ Division of Food Analytics and Environmental Protection |
| Name and academic degree of teacher(s) | Łukasz Dąbrowski, PhD |
| Introductory courses | n.a. |
| Introductory requirements | Basic IT knowledge and use of the internet |

### C. Semester/week schedule of classes

| Semester | Lectures (W) | Auditorium classes (Ć) | Laboratory classes (L) | Project classes (P) | Seminar (S) | Field classes (T) | Number of ECTS points |
|---|---|---|---|---|---|---|---|
| winter | $15^{E}$ | | 30 | | | | 5 |

## 2. LEARNING OUTCOME

| No. | Learning outcomes description | The reference to the learning outcomes of specific field of study | The reference to the learning outcomes for the area |
|---|---|---|---|
| KNOWLEDGE | | | |
| W1 | Knows and understands the basic concepts and principles of industrial property protection and copyright; is able to use patent information resources and scientific literature. | K_W19 | P6S_WG |
| SKILLS | | | |
| U1 | Acquires and properly interprets information from scientific literature and databases. | K_U01 | P6S_UW |
| SOCIAL COMPETENCES | | | |
| K1 | He understands the need to educate himself and improve his professional competences. | K_K01 | P6S_KK |

## 3. TEACHING METHODS

**A. Traditional methods used**

| |
|---|
| Multimedia lectures and classes. |

## 4. METHODS OF EXAMINATION

| |
|---|
| Final written exam, acceptance of completed tasks. |

## 5. SCOPE

| | |
|---|---|
| Lectures | Science and technology information and its role in scientific and research works. Sources of science and technology information, methodology of selection, and browsing of sources of science and technology information. Non-Patent primary literature: journals, conference papers, reports, abstracts. Internet as a source of scientific, technical, and legal information – free and commercial literature databases. Verification of sources. Technical standards as a source of technical information. Patent information – sources of patent information, possibilities of application in scientific and manufacturing activities. Industrial and intellectual property rights protection. Application of sources of legal information in scientific research and other activities. |
| Laboratories | Practical classes are related to the subject of lectures. Their purpose is to strengthen the knowledge passed on during lectures and get the ability of its practical application, in particular, to develop the habit to use various sources of information, its critical evaluation and versatile application during the preparation of diploma theses and in future professional career:<br>- practical browsing of various computer (e.g. EPI-Suite) and web-based databases (e.g. ChemSpider, PubChem, Reaxys etc) of compound properties and spectra: evaluation of the obtained data,<br>- scientific literature searches with licensed databases (e.g. Science Direct, Springer Link, Wiley Online Library) and with free resources (e.g. Google, ResearchGate etc.),<br>- patents and technical standard searches for the defined target,<br>- usage of the bibliographic computer software (e.g. Mendeley) in reference management. |

## 6. METHODS OF VERIFICATION OF LEARNING OUTCOMES

| LEARNING OUTCOME | Form of assessment | | | | | |
|---|---|---|---|---|---|---|
| | Oral examination | Written exam | Colloquium | Project | Presentation | Report |
| W1 | | x | | | | |
| U1 | | x | | | | x |
| K1 | | | | | | x |

## 7. LITERATURE

| | |
|---|---|
| Basic literature | 1. Currano J., Roth D., 2013. Chemical Information for Chemists: A Primer. The Royal Society of Chemistry.<br>2. European IPR Helpdesk, 2018, How to search for patent information, European Union (https://www.iprhelpdesk.eu/sites/default/files/newsdocuments/Fact-Sheet-How-to-Search-for-Patent-Information.pdf)<br>3. Krabbe E., Sampson S., Wetherbee I., 2017, Patent Searching Using Free Search Tools, Intelectual Property Owners Association |

| | |
|---|---|
| Supplementary literature | 1. Getting started with Mendeley, 2010, (https://desktop-download.mendeley.com /download/Getting_Started_Guide.pdf<br>2. Sustainable Futures / P2 Framework Manual, 2012, Chapter 5. Estimating Physical / Chemical and Environmental Fate Properties with EPI Suite, US EPA |

## 8. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS

| Student's activity | | Student workload– number of hours |
|---|---|---|
| Classes conducted under a direct supervision of an academic teacher or other persons responsible for classes | Participation in classes indicated in point 1B | 45 |
| | Supervision hours | 20 |
| Student's own work | Preparation for classes | 20 |
| | Reading assignments | 20 |
| | Other (preparation for exams, tests, carrying out a project etc) | 20 |
| Total student workload | | 125 |
| | Number of ECTS points | **5** |