A. DETAILS OF COURSE

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Course Name</td>
<td>Industrial Hygiene I</td>
</tr>
<tr>
<td>2. Course Code</td>
<td>KMK106</td>
</tr>
<tr>
<td>3. Credits (SKS)</td>
<td>2 (two) SKS</td>
</tr>
<tr>
<td>4. Semester / Term</td>
<td>VI (sixth)</td>
</tr>
<tr>
<td>5. Study Program</td>
<td>Bachelor of Public Health</td>
</tr>
</tbody>
</table>
| 6. Student Learning Achievement | 1. Able to carry out a study and analysis of the situation  
                              2. Able to develop program policies and planning  
                              3. Able to understand the local culture |
| 7. Course Learning Achievement | 1. Define the problem correctly  
                                  2. Evaluate data integrity and comparability  
                                  3. State the policy choices and formulate them clearly and concisely  
                                  4. Decide the appropriate action with the problem at hand  
                                  5. Understand the importance of diverse Public Health workers (Attitudes) |
| 8. Course Description | This course discusses 1) The concept of industrial hygiene (physical factors, chemical factors, biological factors), 2) TLV and PPE, 3) Industrial ventilation, 4) Canteen, 5) House keeping, 6) RTH, 7) Company Sanitation Facilities |
| 9. Course Prerequisites (if any) | None |
| 10. Instructor | Meirina Ernawati, drh., M.Kes. |
| 11. Teaching Assistants | 1. Dr. Noeroel Widajati, S.KM., M.Sc  
                           2. Dani Nasirul Haqi, S.KM., M.KK  
                           3. Putri Ayuni Alayyannur, S.KM., M.KK |

B. TEACHING PROGRAM
<table>
<thead>
<tr>
<th>Week</th>
<th>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percent age (%)</th>
<th>Reference Number (Ref.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students are able to understand the scope and history of the development of industrial hygiene.</td>
<td>General description of industrial hygiene 1. Lecture contract 2. Introduction to industrial hygiene 3. History of industrial hygiene in the world and in Indonesia</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
<tr>
<td>2</td>
<td>Students are able to understand and explain the physical factors of lighting.</td>
<td>General description of the physical factors of lighting. 1. Definition of lighting 2. The scope of lighting in the work environment 3. Safe lighting limits in the</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
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</tr>
<tr>
<td>Week</td>
<td>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</td>
<td>Study Materials</td>
<td>Teaching Methods</td>
<td>Additional Materials for Learning</td>
<td>Meeting Time</td>
<td>Course Objectives</td>
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<td>Mark / Grade / Percentage (%)</td>
<td>Reference Number</td>
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<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>work environment</td>
<td>General description of housekeeping in the work environment. 1. Definition of housekeeping 2. The scope of housekeeping in the work environment 3. Good housekeeping process</td>
<td>Lecture Discussion</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
<tr>
<td>3</td>
<td>Students are able to understand and explain the concept of housekeeping in the work environment</td>
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</tr>
</tbody>
</table>

**Faculty of Public Health**

**Semester (odd/even) / Academic Year**: Even Semester

**Revision - Date**: January 1st, 2019

**Valid on**: Semester (odd/even) / Academic Year

**SLP**

**Prepared by**: Meirina Ernawati, drh., M.Kes.

**Examined by**: Dr. Diah Indriani, S.Si., M.Si

**Approved by**: Dr. Santi Martini, dr., M.Kes

**Universitas Airlangga**

**Semester Learning Plan**

**Document Registration Number**: 01/S1Kesmas/RPS/2019

**Exam**

- Evaluation of this document is needed every year.
<table>
<thead>
<tr>
<th>Week</th>
<th>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number (Ref. number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Students are able to understand and explain the company canteen.</td>
<td>General description of the company canteen. 1. Definition of company canteen 2. The scope of the company canteen 3. Company canteen requirements 4. Good corporate canteen layout 5. Laws and regulations relating to company canteens</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
<tr>
<td>5</td>
<td>Students are able to understand and explain ventilation systems in industry</td>
<td>General description of ventilation in the industry. 1. Definition of ventilation in the industry 2. The scope of ventilation in the industry 3. Ventilation system requirements 4. Good corporate ventilation system layout 5. Laws and regulations relating to ventilation systems for industry</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
</tbody>
</table>
### Week 1
- **Skills expected at the end of each learning phase**
  - **(Sub-Course Achievement)**
  - **(C, A, P)**
- **Study Materials**
- **Teaching Methods**
- **Meeting Time**
- **Course Objectives**
- **Criteria and Indicator of Evaluation / Measurable Learning Outcome**
  - **(hard and soft skills)**
- **Mark / Grade / Percentage (%)**
- **Reference Number**

**Week 1**

| 1. Definition of ventilation in the industry |
| 2. The scope of ventilation in the industry |
| 3. Requirements for ventilation in industry |
| 4. Good industrial ventilation layout |
| 5. Legislation relating to ventilation in industry |

**Teaching Methods**

- Lecture
- Discussion
- Simulation
- Teaching materials
- LCD
- Handout

**Meeting Time**

- 2x50 minutes

**Course Objectives**

- 1. Asking questions and discussing
- 2. Pay attention and discussion

**Criteria and Indicator of Evaluation / Measurable Learning Outcome**

- Showing complex thinking and collaborating

**Mark / Grade / Percentage (%)**

- 7.14%

**Reference Number**

- 1-4
<table>
<thead>
<tr>
<th>Week</th>
<th>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number Ref. (number)</th>
</tr>
</thead>
</table>
| 1    | 1. Understanding TLV and APD in the industry  
2. The scope of TLV and APD in the industry  
3. APD requirements in the industry  
4. Management of APD management in the industry  
5. Regulations related to TLV and APD in the industry | General description of Green Open Space and Sanitation | Lecture Discussion Simulation | Teaching materials LCD Handout | 2x50 minutes | 1. Asking questions and discussing  
2. Pay attention and discussion | Showing complex thinking and collaborating | 7,14% | 1-4 |
| 7    | Students are able to understand and explain the Green Open Space and Sanitation | | | | | 3. Take notes and provide responses | | |

- Evaluation of this document is needed every year.
<table>
<thead>
<tr>
<th>Week</th>
<th>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number Ref. (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sanitation Facilities in the industry</td>
<td>Facilities in the industry. 1. Definition of Green Open Space and Sanitation Facilities in the industry 2. The scope of Green Open Space and Sanitation Facilities in the industry 3. Requirements for Green Open Space and Sanitation Facilities in the industry</td>
<td>3. Take notes and provide responses</td>
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</tr>
<tr>
<td>Week</td>
<td>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</td>
<td>Study Materials</td>
<td>Teaching Methods</td>
<td>Additional Materials for Learning</td>
<td>Meeting Time</td>
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</tr>
<tr>
<td>1</td>
<td>4. Good layout of Green Open Space and Sanitation Facilities in the industry 5. Legislation relating to Green Open Space and Sanitation Facilities in the industry</td>
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</tr>
<tr>
<td>8</td>
<td>Students are able to understand and explain noise in industry</td>
<td>General description of noise in the industry 1. Understanding noise in the industry 2. Types of noise</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td></td>
<td>1. Asking questions and discussing 2. Pay attention and discussing 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
</tr>
</tbody>
</table>

**MID TERM EXAMINATION**

- Evaluation of this document is needed every year
### Faculty of Public Health

**Valid on Semester (odd/even) / Academic Year:** Even Semester

**SLP**
- Revision Date: January 1st, 2019

**Prepared by:** Meirina Ernawati, drh., M.Kes.
**Examined by:** Dr. Diah Indriani, S.Si., M.Si
**Approved by:** Dr. Santi Martini, dr., M.Kes

**Document Registration Number:** 01/S1Kesmas/RPS/2019

- Evaluation of this document is needed every year

### Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)

<table>
<thead>
<tr>
<th>Week</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>3</td>
<td>3. Safe limits on noise at work</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
<tr>
<td>9</td>
<td>Students are able to understand and explain the physical factors of heat in the industry</td>
<td>General description of physical factors of heat in the industry</td>
<td>Lecture Discussion Simulation</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
</tbody>
</table>
### Semester Learning Plan

**SLP**

<table>
<thead>
<tr>
<th>Revision - Date</th>
<th>Faculty of Public Health</th>
<th>Valid on Semester (odd/even) / Academic Year</th>
<th>Even Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1(^{st}), 2019</td>
<td>Valid on Even Semester</td>
<td>Valid on Even Semester</td>
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</tbody>
</table>

- **Evaluation of this document is needed every year**

#### Week 1

<table>
<thead>
<tr>
<th>Week</th>
<th>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</th>
<th>Study Materials</th>
<th>Teaching Methods</th>
<th>Additional Materials for Learning</th>
<th>Meeting Time</th>
<th>Course Objectives</th>
<th>Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)</th>
<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number (number)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2. The safe limit for physical factors of heat in the workplace</td>
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<td></td>
<td>3. Laws and regulations related to physical factors of heat in the industry</td>
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<td>4. How to prevent physical factors from heat in the workplace</td>
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<tr>
<td></td>
<td>5. Management of the management of heat conditions in the workforce</td>
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</tr>
<tr>
<td>Week</td>
<td>Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)</td>
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</tr>
<tr>
<td>10</td>
<td>Students are able to understand and explain the problems of vibration in the industry</td>
<td>General description of vibration in the industry. 1. Definition of vibration in the industry 2. Types of vibrations in the industry 3. Safe limits on vibration at work 4. Standard vibration in the industry 5. Regulations related to vibration in the industry</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion 3. Take notes and provide responses</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
</tbody>
</table>

- Evaluation of this document is needed every year.
### SEMESTER LEARNING PLAN

**Faculty of Public Health**

**SLP**

<table>
<thead>
<tr>
<th>Revision - Date</th>
<th>January 1st, 2019</th>
</tr>
</thead>
</table>

**valid on:**

- Even Semester

**Semester (odd/even)**

- Odd Semester

**Academic Year**

- **1**

- **2**

- **3**

- **4**

- **5**

- **6**

- **7**

- **8**

- **9**

- **10**

- **11**

**Skills expected at the end of each learning phase**

- **Sub-Course Achievement**
  - **C, A, P**

**Study Materials**

- General description of pressure (hypobaric and hyperbaric) in the industry.
  1. Understanding pressure (hypobaric and hyperbaric) in the industry
  2. Pressure differences (hypobaric and hyperbaric) in the industry
  3. Safe limits of pressure

**Teaching Methods**

- Lecture
- Discussion
- Simulation

**Meeting Time**

- 2x50 minutes

**Course Objectives**

- 1. Asking questions and discussing
  2. Pay attention and discussion
  3. Take notes and provide responses

**Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)**

- Showing complex thinking and collaborating

- 7.14%

**Reference Number (number)**

- 1-4

- **Evaluation of this document is needed every year**

---

**Week** | **Skills expected at the end of each learning phase (Sub-Course Achievement)** (C, A, P) | **Study Materials** | **Teaching Methods** | **Additional Materials for Learning** | **Meeting Time** | **Course Objectives** | **Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)** | **Mark / Grade / Percent (%)** | **Reference Number (number)** |
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>6. Ways to prevent vibration in the workplace</td>
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</tr>
</tbody>
</table>
| 11     | Students are able to understand and explain pressure problems (hypobaric and hyperbaric) in industry | General description of pressure (hypobaric and hyperbaric) in the industry.                                    | Lecture Discussion Simulation | Teaching materials LCD Handout    | 2x50 minutes | 1. Asking questions and discussing
  2. Pay attention and discussion
  3. Take notes and provide responses | Showing complex thinking and collaborating |
<p>| | | | | | | | | | |
|        |                                                                                     |                     |                     |                                      |                  |                       |                                                                                        |                               |                             |</p>
<table>
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<tr>
<th>Week</th>
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<th>Mark / Grade / Percentage (%)</th>
<th>Reference Number/Ref. (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students are able to understand and explain solid, liquid and gas waste management systems in industry</td>
<td>General description of industrial waste management systems.</td>
<td>Lecture Discussion Simulation</td>
<td>Teaching materials LCD Handout</td>
<td>2x50 minutes</td>
<td>1. Asking questions and discussing 2. Pay attention and discussion</td>
<td>Showing complex thinking and collaborating</td>
<td>7.14%</td>
<td>1-4</td>
</tr>
<tr>
<td>2</td>
<td>(hypobaric and hyperbaric) in the workplace 4. Regulations related to pressure (hypobaric and hyperbaric) in the industry 5. Management of pressure prevention (hypobaric and hyperbaric) at work</td>
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<td></td>
</tr>
</tbody>
</table>
### Semester Learning Plan

**Faculty of Public Health**

**Semester:** Even Semester  
**Academic Year:** 

- **Prepared by:** Meirina Ernawati, drh., M.Kes.  
- **Examined by:** Dr. Diah Indriani, S.Si., M.Si  
- **Approved by:** Dr. Santi Martini, dr., M.Kes  

**Revision Date:** January 1st, 2019

**Document Registration Number:** 01/S1Kesmas/RPS/2019

---

**Skills expected at the end of each learning phase (Sub-Course Achievement) (C, A, P)**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good  
5. Take notes and provide responses

---

**Study Materials**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Teaching Methods**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Meeting Time**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Course Objectives**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Criteria and Indicator of Evaluation / Measurable Learning Outcome (hard and soft skills)**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Mark / Grade / Percentage (%)**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

---

**Reference Number**

1. Understanding industrial waste management systems  
2. The scope of waste management systems in the industry  
3. Requirements for a safe industrial waste management system  
4. Types of industrial waste management systems that are good

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<td>5. Strengths and weaknesses of each waste management system in the industry</td>
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<td></td>
<td>Showing complex thinking and collaborating</td>
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<tr>
<td>13</td>
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<td>General description of industrial waste management systems. 1. Understanding industrial waste management systems</td>
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- Revision Date: January 1st, 2019

- Faculty of Public Health: Valid on Even Semester (odd/even) / Academic Year

- Document Registration Number: 01/S1Kesmas/RPS/2019

- Prepared by: Meirina Ernawati, drh., M.Kes.
- Examined by: Dr. Diah Indriani, S.Si., M.Si
- Approved by: Dr. Santi Martini, dr., M.Kes
### SEMESTER LEARNING PLAN

**SLP**

**Prepared by**: Meirina Ernawati, drh., M.Kes.

**Examined by**: Dr. Diah Indriani, S.Si., M.Si

**Approved by**: Dr. Santi Martini, dr., M.Kes

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14 Students are able to understand and explain solid, liquid and gas waste management systems in industry
### Semester Learning Plan

**Universitas Airlangga**

**Semester Learning Plan**

- **Prepared by:**
  - Meirina Ernawati, drh., M.Kes.
- **Examined by:**
  - Dr. Diah Indriani, S.Si., M.Si
- **Approved by:**
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6. Laws and regulations related to industrial waste | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

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## C. REQUIRED TEXTS / REFERENCES / ESSENTIAL READINGS

1. Encyclopedia K3
2. Suma’mur PK. Higiene Perusahaan & Kesehatan Kerja, 2009
3. Kumpulan peraturan perundangan di bidang K3
4. UU No. 1 Tahun 1970; UU No. 13 tahun 2003; UU No. 13 Tahun 2011