**JABATAN / DEPARTMENT OF JKM**
**RANGKA KURSUS / COURSE OUTLINE / SSG**

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|---|---|---|
| 1. | NAME OF COURSE | ENGINEERING AND SOCIETY |
| | COURSE CODE | DJJ40132 (Version: 230419_1_Effective: June2019) |
| 2. | SYNOPSIS | ENGINEERING AND SOCIETY focuses on the introduction to professional ethics, theory and philosophy of ethics, values in professional ethics, engineering bylaws and standards, issues in professional ethics and sustainability. It also relates towards IR 4.0 introduction and green engineering. |
| 3. | CREDIT VALUE | 2 |
| 4. | PREREQUISITE/ CO-REQUISITE (IF ANY) | None |
| 5. | COURSE LEARNING OUTCOMES (CLO): Upon completion of this course, students should be able to: | |
| | CLO1 | Implement the roles of engineering profession towards the developing of society and its challenges in globalization (C3,PLO6) |
| | CLO2 | Determine the important of work ethics, bylaws and professionalism in engineering profession. (C4,PLO8) |
| | CLO3 | Determine the needs for sustainable and green engineering towards providing the solutions in engineering field. (C4,PLO7) |

PROGRAMME LEARNING OUTCOMES (PLO):

PLO 6 : Communicate effectively with the engineering community and society at large.

PLO 7 : Function effectively as an individual and as a member in diverse technical teams

PLO 8 : Demonstrate an understanding of professional ethics, responsibilities and norms of engineering practices.

6. ASSESSMENT METHOD:

The course assessment consist of:

i. Continuous Assessment (CA) – 100%

| Assessment | Quantity | Percentage (%) |
|---|---|---|
| Quiz | 2 | 30% |
| Test | 2 | 40% |
| Presentation | 1 | 15% |
| Case Study | 1 | 15% |

7. TEACHING SCHEDULE:

| Topic No. | Topic/Content | Recommended Contact Hours | Assessment Method | Week |
|---|---|---|---|---|
| 1.0 | Introduction To Engineering In Society<br>1.1 Show engineering development in a society<br>1.2 Execute the role of engineering in society<br>1.3 Apply the responsibilities of an engineer in an organization | 2.75 hours<br>Lecture | | W1-W2 |
| 2.0 | Engineering Challenge In Globalization<br>2.1 Demonstrate engineers roles in Industrial Revolution 4.0<br>2.2 Solve engineering challenge in globalization | 2.5 hours<br>Lecture | Quiz 1<br>0.25 hour | W2 – W3<br>(W3) |
| 3.0 | Professional Ethics<br>3.1 Determine engineering professionalism science and engineering<br>3.2 Discover the philosophy of ethics and ethical theory applications<br>3.3 Explore the values and issues in professional ethics | 3.5 hours<br>Lecture | Test 1<br>1 hour | W3 – W5<br>(W5) |
| 4.0 | Engineering Management in Society<br>4.1 Differentiate management and engineering<br>4.2 Find the relationship of engineering management to the society<br>4.3 Determine engineering responsibilities<br>4.4 Classify bylaws and standards in engineering practice | 5.5 hours<br>Lecture | Presentation Preparation<br><br>Case Study Preparation | W6 – W8 |
| 5.0 | Professional Bodies in Engineering<br>5.1 Determine rights and privileges of a professional engineer<br>5.2 Classify professional conduct<br>5.3 Differentiate professional engineering bodies<br>5.4 Determine monitoring of professional conduct | 5.5 hours<br>Lecture | Quiz 2<br>0.25 hour | W8 – W11<br>(W11) |
| 6.0 | Sustainability & Green Engineering<br>6.1 Determine sustainability and green engineering<br>6.2 Classify sustainable and green technology<br>6.3 Correlate the role of engineer towards sustainability and green technology | 5.25 hours<br>Lecture | Presentation<br>0.5 hour<br><br>Test 2<br>1 hour | W11 – W14<br>(W14) |

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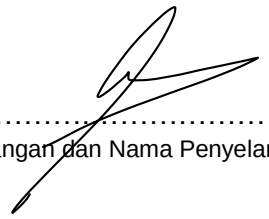
| 8. | REFERENCES | Main :<br>1. Harris C.E, Jr.,(2018), *Engineering Ethics: Concept and Cases*, 5th Edition, Cengage Learning.<br><br>Additional :<br>1. Jonker G. and Harmsen J. (2012) *Engineering for Sustainability: A Practical Guide for Sustainable Design*, Elsevier (ISBN 978-0444538475)<br>2. Thiroux, J and Krasemann K, (2006), *Ethics – Theory and Practice*, 9th Edition, Prentice-Hall. (ISBN 978-0132302135)<br>3. Johari, M.J., (2003), *Etika Professional*, Edisi Kedua, Penerbit Universiti Teknologi Malaysia, Skudai, Johor (ISBN 983-52-0238-9)<br>4. Martin, M. W. and Schinzinger, R., (2005), *Ethics in Engineering*, 4th Edition, McGraw Hill, New York. (ISBN 978-0072831153)<br>5. Ottensmeyer, E.J. and McCarthy, G.D., (2000), *Ethics in the Workplace*, McGraw Hill, New York. (ISBN 978-0070481602)<br>6. Code of Professional Conduct retrieved from http://bem.org.my/code-of-professional-conduct on 14th of March 2019. |

Prepared by:



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(Tandatangan dan Nama Penyelaras Kursus)

Date : 25/8/2023

LUQMAN NUL HAKIM BIN JUWARA
KETUA PROGRAM
DIPLOMA KEJURUTERAAN MEKANIKAL (AUTOMASI)
POLITEKNIK MUADZAM SHAH
PAHANG DARUL MAKMUR

Verified by :

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( Tandatangan dan Nama TPA/KJ/KPro/KK **)**

Date : 25/8/2023

MOHD HELMI BIN SALLEH
Ketua Jabatan
Jabatan Kejuruteraan Mekanikal
Politeknik Muadzam Shah
Pahang Darul Makmur