2020

# Penyusunan SAR - ASIIN


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KANTOR PENJAMINAN MUTU

# KRITERIA - ASIIN

**BADAN AKREDITASI**

**TERMASUK DALAM EQAR – EXTERNAL QUALITY ASSURANCE REGISTER**

# 6 KRITERIA ASIIN

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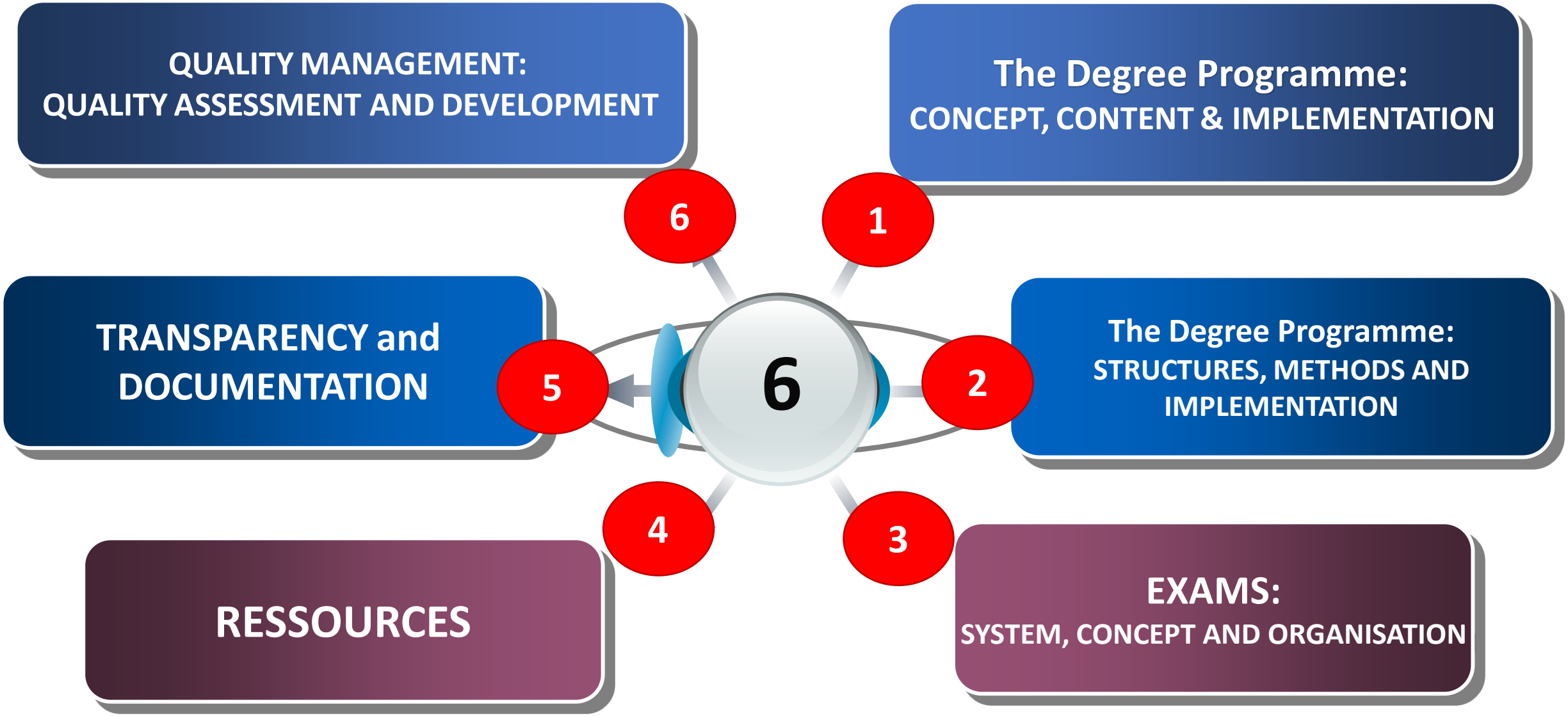


OBJECTIVES & ILO


# THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION

| Chapter 1 | THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | Evidence (Lampiran)<br>**Documentation/supporting records:** |
|---|---|---|
| 1.1 | **Objectives and learning outcomes of a degree programme (intended qualifications profile)**<br>❑ Rumusan Kualifikasi profil, PLO (evaluasi secara periodic dengan melibatkan stakeholder)<br>❑ Kualifikasi Profil, PLO mudah diakses oleh internal (dosen dan mahasiswa) dan external stakeholder yang relevan (diletakkan pada website) | guidelines, website, Diploma Supplement, student handbooks, alumni surveys etc. |
| 1.2 | **Title of the degree programme**<br>The degree programme title reflects the intended aims and learning outcomes, the main course language. | guidelines, website, Diploma Supplement etc. |
| 1.3 | **Curriculum**<br>❑ The overall objectives and intended learning outcomes for the degree programme are systematically substantiated and updated in its individual modules[8].<br>❑ It is clear which knowledge, skills and competences students will acquire in each module | guidelines, curricular overview, module/objectives matrix, website, student handbooks etc. |
| 1.4 | **Admission requirements**<br>❑ Sistem admisi harus transparan.<br>❑ Peta ketercapaian PLO (yang dapat memberikan informasi yang jelas kepada calon Mhs).<br>❑ Tersedia rule yang jelas, untuk calon mahasiswa – kompensasi terhadap ketidakpemenhan PLO | guidelines, website, student handbooks etc. |

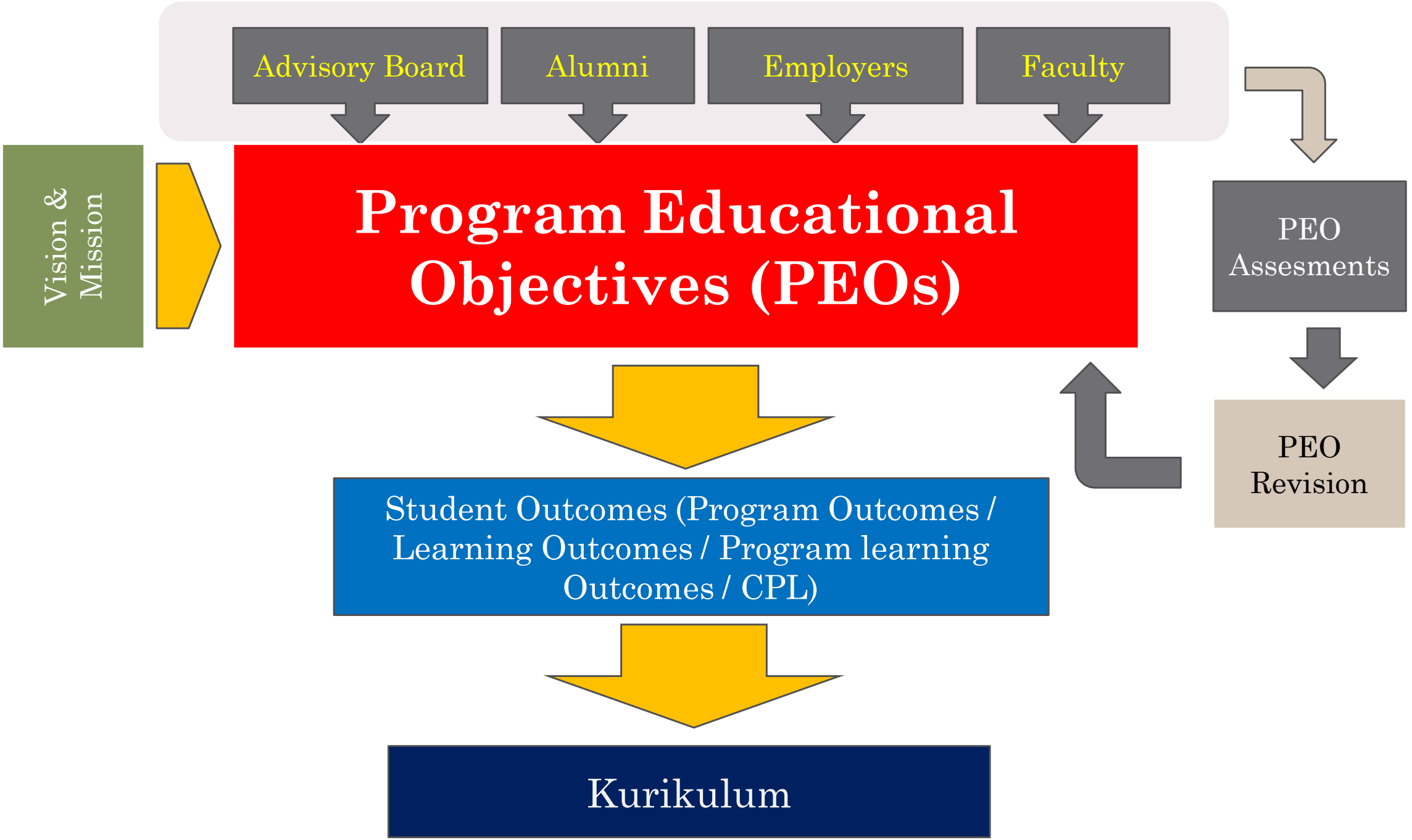
## 1.1.1 The Objectives
## 1.1.2 Learning Outcomes

The objectives and learning outcomes of the degree programme (i.e. the intended qualifications profile) are described in a brief and concise way. They are well-anchored, binding and easily accessible to the public, i.e. to students, teaching staff and anyone else interested. The aims and learning outcomes

easily accessible to the public, i.e. to students, teaching staff and anyone else interested

# 1.1. Objectives and learning outcomes of a degree programme (intended qualifications profile)

- Rumusan Kualifikasi Profil, PLO (evaluasi secara periodik dengan melibatkan stakeholder)
- Kualifikasi Profil, PLO mudah diakses oleh internal (dosen dan mahasiswa) dan external stakeholder yang relevan (diletakkan pada website)


Advisory Board
Alumni
Employers
Faculty
Vision & Mission
Program Educational Objectives (PEOs)
PEO Assesments
PEO Revision
Student Outcomes (Program Outcomes / Learning Outcomes / Program learning Outcomes / CPL)
Kurikulum

# 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)


**Proses Pendidikan di Universitas**

Lulusan

CPL

3-5thn setelah lulus

PEO /PPM

Karier awal
....

Beberapa thn setelah lulus
1. …
2. …

3-5 Thn setelah lulus
....

# PEO & PLO

## Program Educational Objectives

Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.

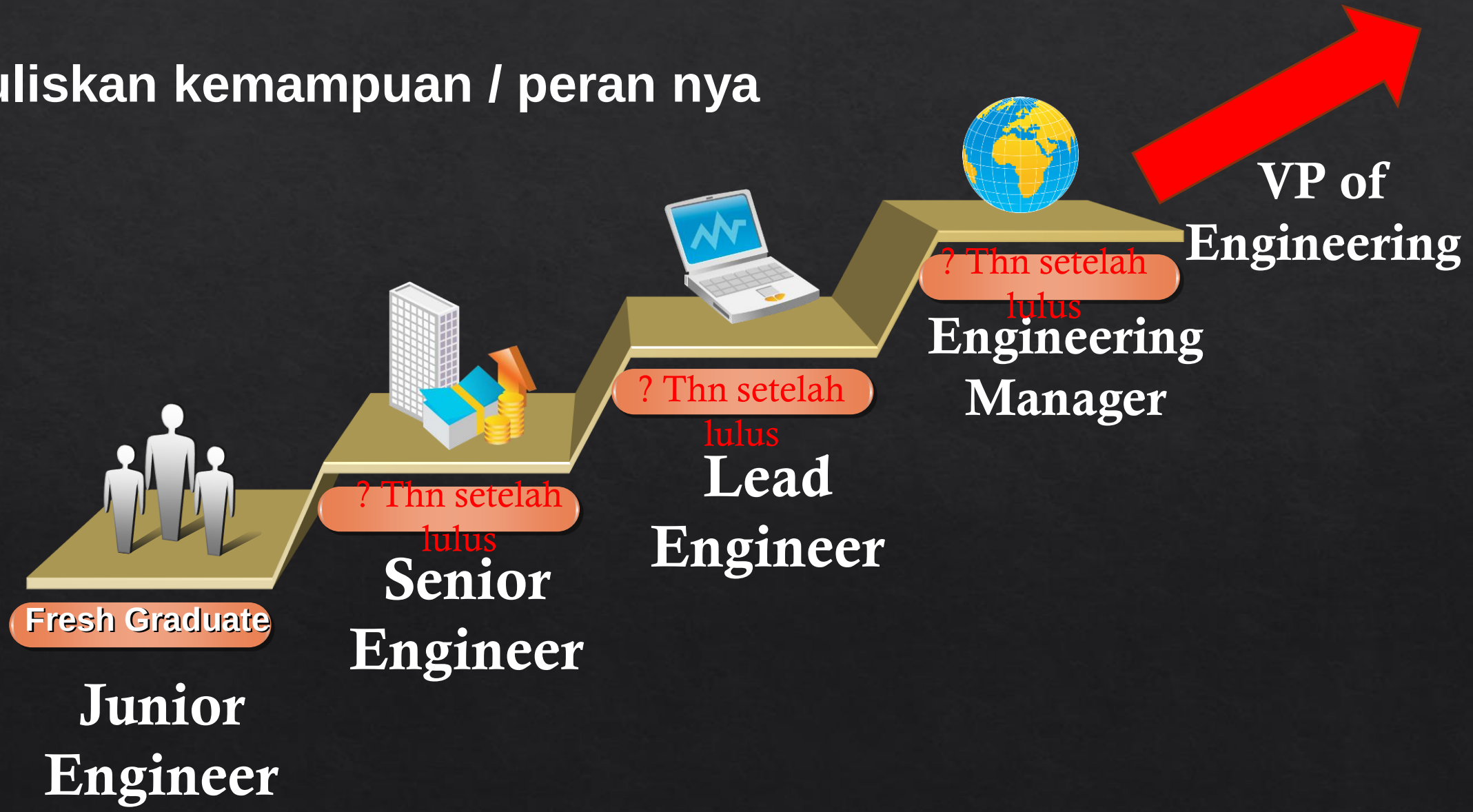
## Program Outcomes

Program outcomes are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their matriculation through the program.

Sebuah pernyataan ‘PERAN / KARIER / PENCAPAIAN PROFESIONAL DARI LULUSAN DALAM MASA 3 – 5 TAHUN SETELAH LULUS ”

# Secara Umum – Jenjang Karir Engineer

**Tuliskan kemampuan / peran nya**



# Pada point 1.1.2
# Buat Matrik CPL / ILO – PEO

| | PEO-1 | PEO-2 | PEO-3 | PEO-4 |
|---|---|---|---|---|
| CPL-1 | ✓ | ✓ | ✓ | |
| CPL-2 | | | ✓ | |
| CPL-3 | ✓ | | | ✓ |
| …. | | ✓ | ✓ | ✓ |
| …. | | | | |
| CPL-n | ✓ | ✓ | ✓ | ✓ |

# PEO & PLO

## Program Educational Objectives

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## Program Outcomes

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Sebuah pernyataan ‘PERAN / KARIER / PENCAPAIAN PROFESIONAL DARI LULUSAN DALAM MASA 3 – 5 TAHUN SETELAH LULUS ”

# Contoh Profil Qualification / PEO

Graduates of the …… degree program will be prepared to build and sustain successful careers in engineering and science, and actively engage in life-long learning.

# PEO – Chemical Engineering (Contoh)

## 1. Technical Skills:

Our graduates will apply their technical proficiency for the professional practice of chemical engineering or any other career path they choose.
(a) Utilize practical engineering skills for productive, gainful, and ethical careers in chemical and related industries and organizations.
(b) Have a background that allows and encourages those who are qualified to pursue advanced technical and professional degrees.
(c) Have sufficient breadth to make successful transitions into other professional areas, for example, medicine, law, business and management

## 2. Professional Skills:

Our graduates will contribute to the professional practice of their chosen field through effective communication, leadership, teamwork, and service, while exhibiting high ethical and professional standards.

## 3. Environment, Safety and Societal Issues:

Our graduates will apply high standards in the performance of their professional work regarding global and societal issues including health, safety, and the protection of the environment.

## 4. Life-Long Learning:

Our graduates will continue life-long learning through professional activities and training, the pursuit of higher educational degrees, and individual professional improvement.

# Electrical Engineering

In their first few years on the job, graduates of the Electrical Engineering program at Texas Tech University should be able to utilize the knowledge gained from their academic program to:

1. Solve important problems in a modern technological society as valuable, productive engineers.
2. Enter and succeed in a graduate program.
3. Function and communicate effectively, both individually and within multidisciplinary teams.
4. Continue the process of life long learning.
5. Be sensitive to the consequences of their work, both ethically and professionally, for productive professional careers.

# MECHANICAL ENGINEERING TECHNOLOGY (MEET)

## Program Educational Objectives

*These are statements that describe the expected accomplishments of graduates during their first few years after graduation. The audiences for objective statements are external constituents such as prospective students, alumni, employers, transfer institutions and student sponsors.*

Once our students are out in the workforce they should be able to:

1. Engage in applications oriented design, manufacturing, and management of mechanical systems, including computer-aided design and manufacturing, and all the technical and economic variables affecting production.

2. Use appropriate theory, mathematics and computational technology to analyze and solve problems encountered in the applications of mechanical systems design and manufacturing.

3. Communicate and Function effectively as an individual and as a team member in professional environment.

4. Pursue lifelong learning and continuous improvement of their knowledge and skills in the design development, and application of mechanical systems in diverse industries with the highest professional and ethical standards.

5. Understand the local, national and global issues related to the development and application of mechanical systems and to be considerate of the impact of these issues on different cultures.

# Intended Learning Outcomes - Prodi

1. **Reflect the level of academic qualification** aimed at(S1 / S2) – seuaikan dengan level kemampuan KKNI
2. And are **equivalent to the learning outcome examples described in the respective ASIIN Subject-Specific Criteria (SSC)**;

**Terdapat 13 SSC – sesuaikan dengan LO Prodi (dengan cara buat matriks kesesuaian antara LO prodi (CPL) dengan LO SSC)**

*Proses penyusunan Profil Kualifikasi (Objectives) dan ILO dilakukan bersama stakeholder*

# Contoh – ELECTRICAL ENGINEERING (SSC-02)

| | Learning Outcomes - SSC |
|---|---|
| SSC-02.1 | Knowledge and Understanding |
| SSC-02.2 | Engineering Design |
| SSC-02.3 | Investigation and Assessment |
| SSC-02.4 | Engineering Practice and product Development |
| SSC-02.5 | Transferrable skills |

| | SSC-02.1 | SSC-02.2 | SSC-02.3 | SSC-02.4 | SSC-02.5 |
|---|---|---|---|---|---|
| CPL1 | X | | X | | |
| CPL2 | | X | | X | X |
| CPL3 | | X | X | X | |
| … | | | | | |
| … | | | | | |
| … | X | X | | | X |
| CPLN | X | X | X | X | |

**The intended qualifications profile** allows the students to take up an occupation which corresponds to their qualification (professional classification). The relevant stakeholders were included in the process of formulating and further developing the objectives and learning outcomes.

Documentation/supporting records:

1. Guidelines,
2. Website (Prodi dan fakultas),
3. Diploma Supplement,
4. Student handbooks,
5. Alumni surveys
6. etc.

**DOKUMEN EVIDENCE**

# Intended Learning Outcomes - Prodi

- are **viable and valid**;
- are **analysed on a regular basis and developed further** if necessary.

ILO harus: ***measurable & observable***

**Analisa LO berdasarkan *Tracer Study***

Tujuan Pendidikan dan ILO harus diletakkan di

1. website Fakultas dan
2. Website Prodi

WEBSITE FAKULTAS LINK DG WEB DEP/PRODI

## 1.2. Title of the degree programme
**The degree programme title reflects the intended aims and learning outcomes, the main course language.**

[Documentation/supporting: guidelines, website, Diploma Supplement, etc]

# 1.3. Curriculum

- The overall objectives and intended learning outcomes for the degree programme are systematically substantiated and updated in its **individual modules**.
- It is clear which knowledge, skills and competences students **will acquire in each module**

## Example form for Module Handbook

A **Module Handbook or collection of module descriptions that is also available for students to consult** should contain the following information about the individual modules:

| | |
|---|---|
| Module designation | |
| Module level, if applicable | |
| Code, if applicable | |
| Subtitle, if applicable | |
| Courses, if applicable | |
| Semester(s) in which the module is taught | |

| | |
|---|---|
| Person responsible for the module | *Please indicate a specific person.* |
| Lecturer | |
| Language | |
| Relation to curriculum | *For all programmes, including those running out, in which the module is taught: programme, specialization if applicable, compulsory/elective, semester* |
| Type of teaching, contact hours | *Contact hours and class size separately for each teaching method: lecture, lesson, practical, project, seminar etc.* |
| Workload | *(Estimated) workload, divided into contact hours (lecture, exercise, laboratory session, etc.) and private study, including examination preparation, specified in hours,[1] and in total.* |

| | |
|---|---|
| Credit points | |
| Requirements according to the examination regulations | |
| Recommended prerequisites | *E.g. existing competences in ...* |
| Module objectives/intended learning outcomes | *Key question: what learning outcomes should students attain in the module?*<br>*E.g. in terms of:*<br>- *Knowledge: familiarity with information, theory and/or subject knowledge*<br>*Skills: cognitive and practical abilities for which knowledge is used*<br>- *Competences: integration of knowledge, skills and social and methodological capacities in working or learning situations*[2]<br>*E.g.: "Students know that/know how to/are able to…"* |

| | |
|---|---|
| Module name | **Analysis of Algorithms and Complexity** |
| Module level | Undergraduate |
| Code | MII-2201 |
| Courses (if applicable) | Analysis of Algorithms and Complexity |
| Semester | Fall (Gasal) |
| Contact person | Anny Kartika Sari, M.Sc., Ph.D. |
| Lecturer | Anny Kartika Sari, M.Sc., Ph.D.<br>Faizal Makhrus, M.Sc., Ph.D. |
| Language | Bahasa Indonesia and English |
| Relation to curriculum | Undergraduate degree program, mandatory, 3rd semester. |
| Type of teaching, contact hours | Lectures, < 60 students, regular: Tuesdays, 10.30-13.00, international: Wednesdays, 10.30-13.00. |
| Workload | 1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week.<br>2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week.<br>3. Private study: 3 x 60 = 180 minutes (3 hours) per week. |
| Credit points | 3 credit points (sks). |

| | | |
|---|---|---|
| Requirements according to the examination regulations | A student must have attended at least 75% of the lectures to sit in the exams. | |
| Mandatory prerequisites | Discrete Mathematics. | |
| Learning outcomes and their corresponding PLOs | After completing this module, a student is expected to:<br>CO-1: understand and are able to explain the basic concepts of analysis of algorithms and calculate running time of algorithms.<br>CO-2: understand and are able to explain several types of asymptotic notations and how to determine them based on running time.<br>CO-3: understand and are able to apply the methods to solve recurrences.<br>CO-4: understand and are able to choose existing efficient algorithms.<br>CO-5: understand and are able to use a few analysis techniques such as probabilistic analysis dan amortized analysis.<br>CO-6: understand and are able to explain the basic theory of complexity (including P, NP, SAT, reduction).<br>CO-7: understand and are able to explain the classical theory of complexity (including P and co-NP structures, PSPACE, TQBF, Savitch's theorem). | PLO3<br>PLO3<br>PLO3<br>PLO5<br>PLO4<br>PLO3<br>PLO3 |

Contoh

| | |
|---|---|
| Study and examination requirements and forms of examination | • In-class exercises<br>• Quiz 1 and 2<br>• Assignment 1, 2, 3<br>• Mid-term examination<br>• Final examination |
| Media employed | LCD, whiteboard, websites (eLisa). |
| Assessments and Evaluation | CO-1: Question no 1 in midterm exam (10%)<br>CO-2: Question no 2 in midterm exam (10%)<br>CO-3: Question no 3 in midterm exam (10%), quiz 1 (5%)<br>CO-4: Assignment 1 (5%), question no 4 in midterm exam (10%), Quiz 2 (5%)<br>CO-5: Question no 1 in final exam (10%), question no 2 in final exam (10%)<br>CO-6: Assignment 2 (5%), question no 3 in final exam (10%)<br>CO-7: Assignment 3 (5%), question no 4 in final exam (5%) |
| Reading List | Cormen, et.al., Introduction to Algorithms, 3rd Edition, MIT Press/McGraw-Hill, 2009<br>Dasgupta, S., et.al., Algorithms, McGraw-Hill, 2006<br>Wegener, I., Complexity Theory: Exploring the Limits of Efficient Algorithms, Springer, 2005 |

# 1.4. Admission requirements

- Sistem admisi harus transparan.
- Peta ketercapaian PLO (yang dapat memberikan informasi yang jelas kepada calon Mhs).
- Tersedia rule yang jelas, untuk calon mahasiswa – kompensasi terhadap *lack previous Knowledge*

# Terimakasih