



ACCREDITATION AND OUTCOME BASED CURRICULUM DESIGN

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Challenges in 21st Century Education

- How to improve Student **Engagement**
- How to equip students with the 21st century **knowledge, skills** and **attitudes**?
- How to allow **continuous improvement** in curricula, incorporation of better Open Educational Resource, for more effective teaching.
- How to Ensure examination system **reinforces teaching and learning**
- How to ensure **life long learning**
- How to *teach a **large class***





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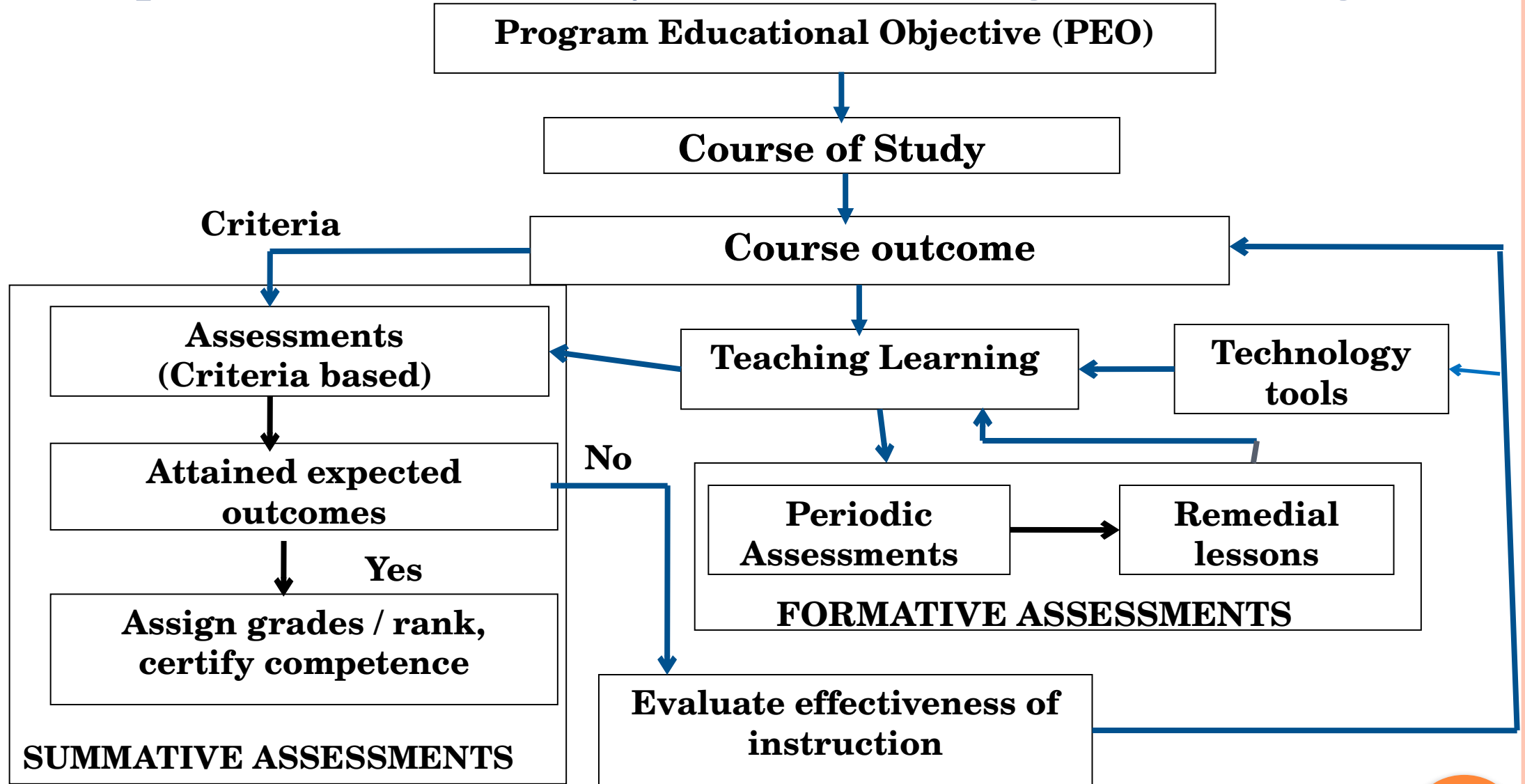


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Impact of examination system on teaching and learning



Accreditation



Learning Outcomes

[Washington Accord—Graduate_Profiles]

Completion of an accredited programme of study typified by four years or more of post-secondary study

1. Knowledge of Engineering Sciences

Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialisation to the **solution of complex engineering problems**

2. Problem analysis

Identify, formulate, research literature and **analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences**



3. Design / development of solutions

Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

4. Investigation

Conduct investigations of complex problems including **design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.**

5. Modern Tool Usage

*Create, select and apply appropriate techniques, resource, and modern engineering tools including prediction and modeling, to **complex engineering activities**, with an understanding of the limitations.*



6. Individual and Team work

Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings

7. Communication

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation make effective presentations, and give and receive clear instructions.

8. The Engineer and Society

Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.



9. Ethics

Understand and commit to professional ethics and responsibilities and norms of engineering practice.

10. Environment and Sustainability

Understand the impact of engineering solutions in a societal context and **demonstrate knowledge** of and need for sustainable development

11. Project Management and Finance

Demonstrate a knowledge and understanding of management and business practices, such as risk and change management, and understand their limitations



12. Life Long Learning

Recognize the need for, and have the ability to engage in independent and life-long learning



OUTCOME BASED LEARNING



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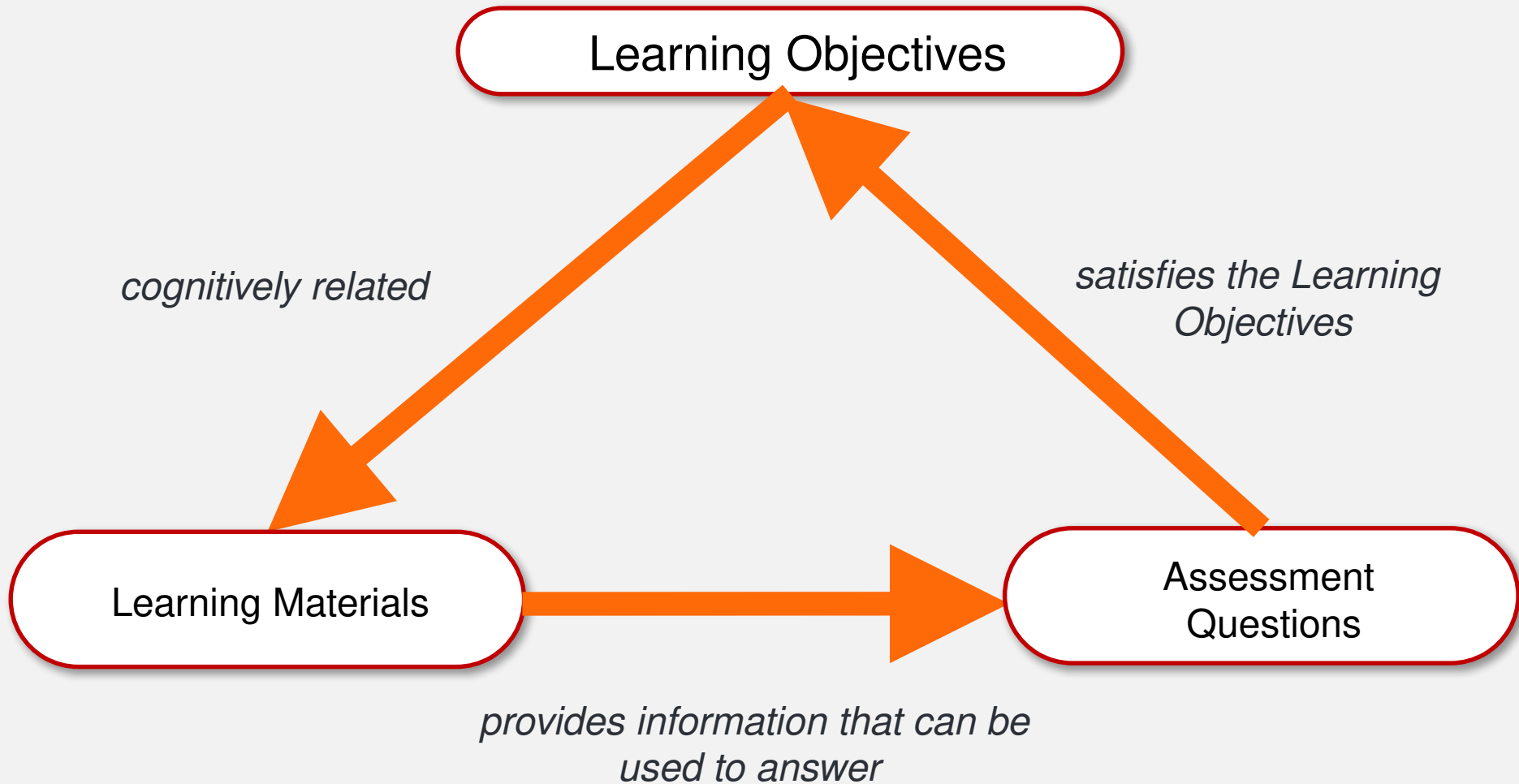
Role of a Teacher is to guide and mentor students



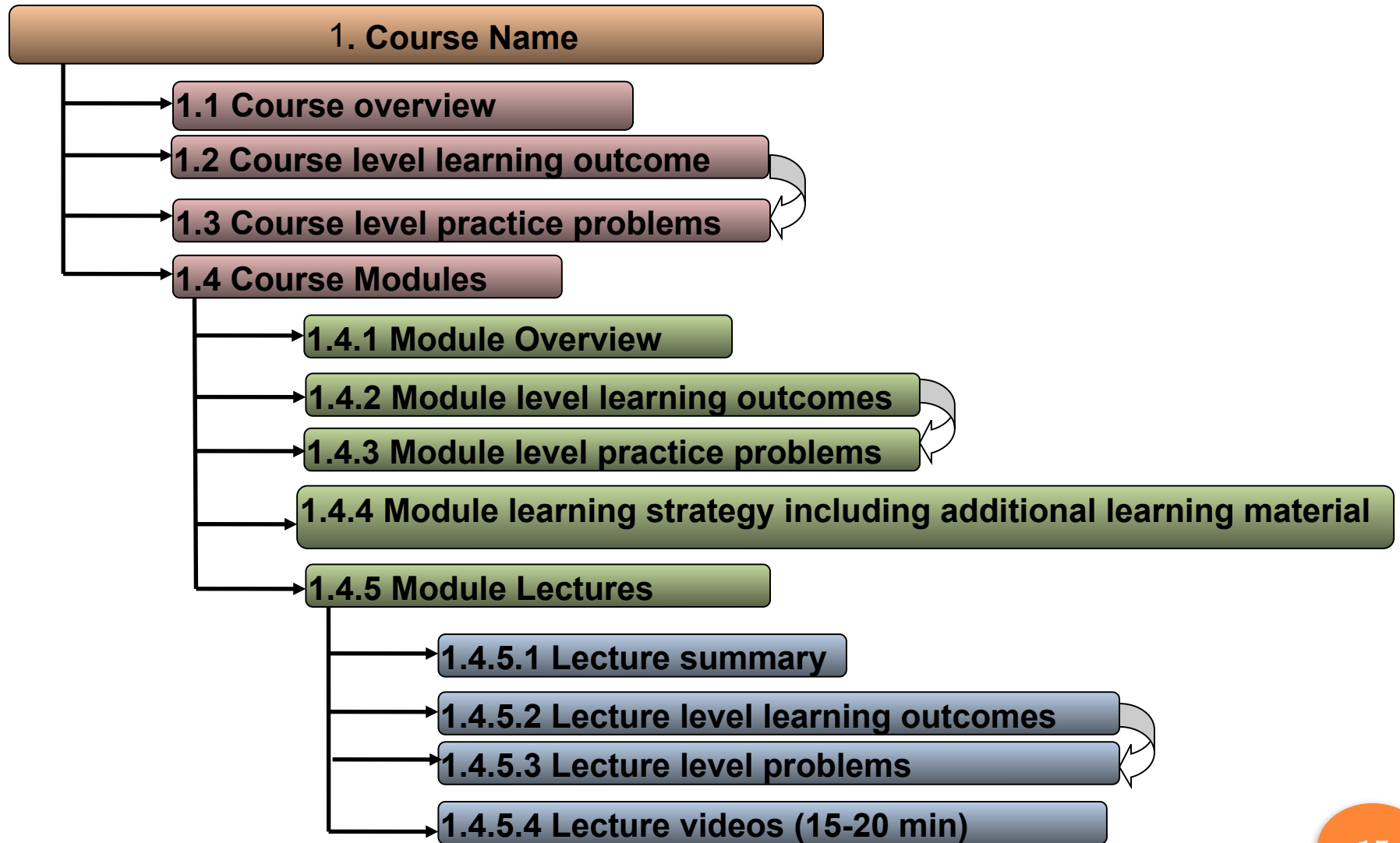
**IT'S NOT WHAT Teacher
TEACHS,
IT'S WHAT Learners LEARN**

*Role of a Teacher is to
guide and mentor
students*

□ learner-centric approach



OBE Curriculum Design framework



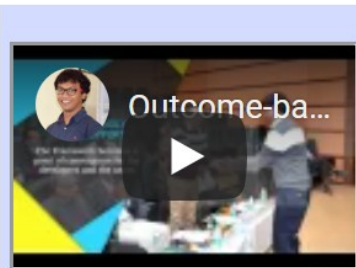
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- All Document**
- Developer Guide
- Reviewer Guide
- Outcome-based Curriculum Design
- Summary Report of this Project
- 1st PRSG Meeting Report

- 1.If you want to develop your own Institute courses in pedagogical framework, please register your institution here [Institute Registration](#)
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- 3.To view the developed courses please visit [Courseview](#) page.

Project Outline

A collaborative project

This project is an experiment to systematically design and develop learner-centric curricula, suitable for outcome-based learning for 4 year degree programmes in six major engineering disciplines. This project is

Thank You