



MANU PROGRAM – ACCREDITATION OVERVIEW AND PROCESS ORIENTATION

31/10/24

ADAM CLARE ON BEHALF OF THE MANU ACCREDITATION
COMMITTEE



PURPOSE OF THIS SESSION

- Canadian undergraduate engineering programs are accredited. Accreditation is effectively an independent validation of the quality of the qualification our students will receive. Accreditation is therefore a key aspect of our operation.
- Accreditation allows students to register with professional organizations such as EGBC without additional examination. This allows graduates to be recognised by employers.
- As accreditation is important to all stakeholders in the MANU program (students are of course central to this) **WE** take this seriously as a result.
- We will briefly discuss the basics of accreditation, our processes to meet accreditation standards and review our responsibilities as a team. We will also discuss the next visit of the Canadian Engineering Accreditation Board will be making (November 3,4 and 5).



CEAB AND ACCREDITATION



CANADIAN ENGINEERING ACCREDITATION BOARD

- Part of Engineers Canada
- *The Accreditation Board accredits undergraduate engineering programs. These programs provide the academic requirements for licensure as a professional engineer in Canada.*
- Facilitates
 - Current accreditation requirements, guidelines, and document templates
 - Accreditation improvement program
 - Accreditation process, including accreditation visitors, review, and approvals
- Ensures Canadian institutions meet eligibility requirements for the Washington Accord



THE WASHINGTON ACCORD

THE WASHINGTON ACCORD IS AN **INTERNATIONAL AGREEMENT** BETWEEN BODIES RESPONSIBLE FOR ACCREDITING **ENGINEERING DEGREE PROGRAMMES.**



WHAT IS THE CEAB PRIMARILY INTERESTED IN?

- 12 competencies in which students must be assessed throughout the program

1	Knowledge Base	7	Communication skills
2	Problem Analysis	8	Professionalism
3	Investigation	9	Society & Environment
4	Design	10	Ethics and Equity
5	Engineering Tools	11	Economics
6	Team Work	12	Lifelong Learning

- Each GA has *Indicators*
 - 3-6 indicators per GA
 - Program curriculum committee chooses the indicators
- Courses assess Indicators at **Introduced (I)**, **Developed (D)**, and **Advanced (A)** levels

1 KB	2 PA	3 Inv.	4 Des.	5 Tools	6 Team	7 Comm.	8 Prof.	9 Impacts	10 Ethics	11 Econ.	12 LL
D	D	D	D	D	D	I	I				D



KEY INDICATORS: GRADUATE ATTRIBUTES I

A Knowledge Base for Engineering: Demonstrated competence in university level mathematics, natural sciences, engineering fundamentals, and specialized engineering knowledge appropriate to the program.

Problem Analysis: An ability to use appropriate knowledge and principles to identify, formulate, analyze, and solve complex engineering problems in order to reach substantiated conclusions.

Investigation: An ability to conduct investigations of complex problems by methods that include appropriate experiments, analysis and interpretation of data, and synthesis of information in order to reach valid conclusions.

Design: An ability to design solutions for complex, open-ended engineering problems and to design systems, components or processes that meet specified needs with appropriate attention to health and safety risks, applicable standards, economic, environmental, cultural and societal considerations.

Use of Engineering Tools: An ability to create, select, apply, adapt, and extend appropriate techniques resources, and modern engineering tools to a range of engineering activities, from simple to complex, with an understanding of the associated limitations.

Individual and Team Work: An ability to work independently and as a member and leader in diverse teams and in multi-disciplinary settings.



KEY INDICATORS: GRADUATE ATTRIBUTES II

Communication Skills: An ability to communicate complex engineering concepts within the profession and with society at large. Such abilities include reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions.

Professionalism: An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.

Impact of Engineering on Society and the Environment: An understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society; of the uncertainties in the prediction of such interactions and of the concepts of sustainable development and environmental stewardship.

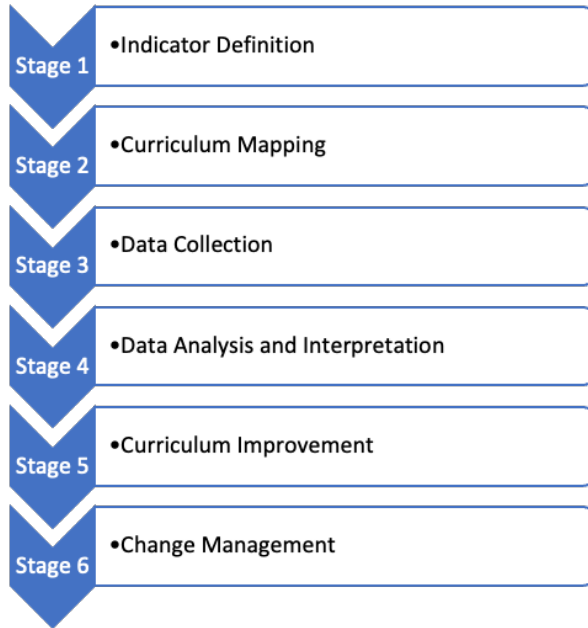
Ethics and Equity: An understanding of professional ethics, accountability, and equity.

Economics and Project Management: An ability to appropriately incorporate economics and business practices including project, risk and change management into the practice of engineering, and to understand their limitations.

Life-long Learning: An ability to engage in independent and life-long learning.



PROCESS OVERVIEW



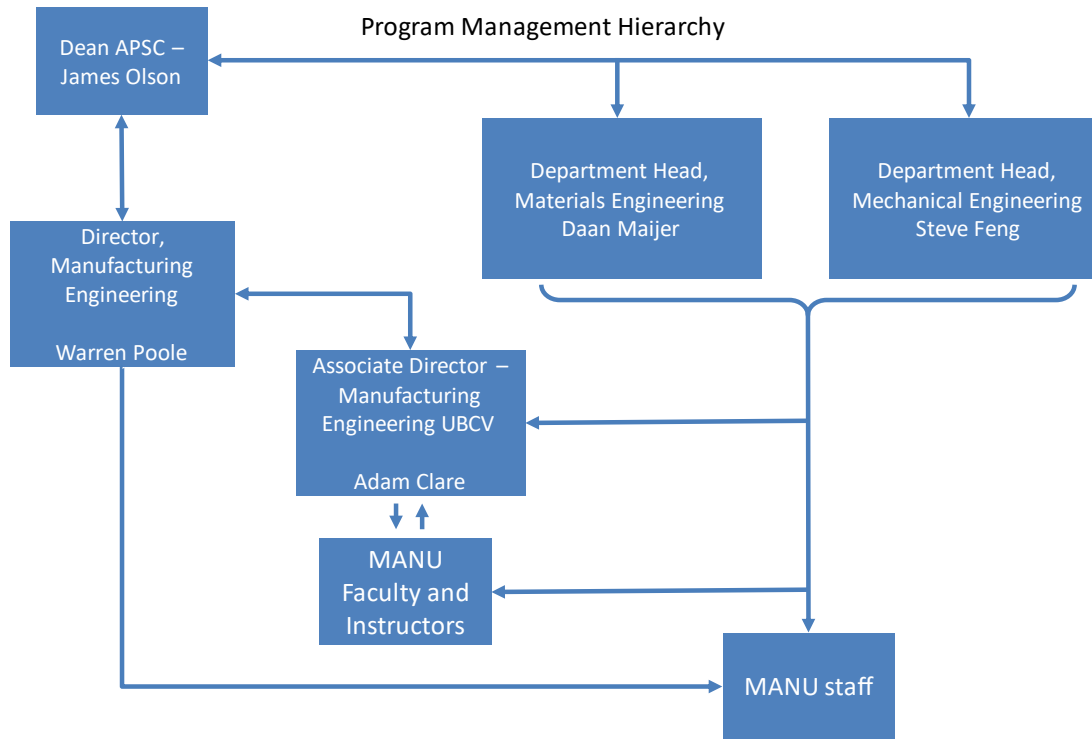
- Accreditation Advisor proposes Indicators and mapping to the Curriculum Committee
- Data Collection and analysis occurs annually, facilitated by the Accreditation Advisor through a survey
- Recommendations made to the Curriculum Committee
- Curriculum Committee is then responsible to implementing changes



ORGANIZATIONAL CHARTS



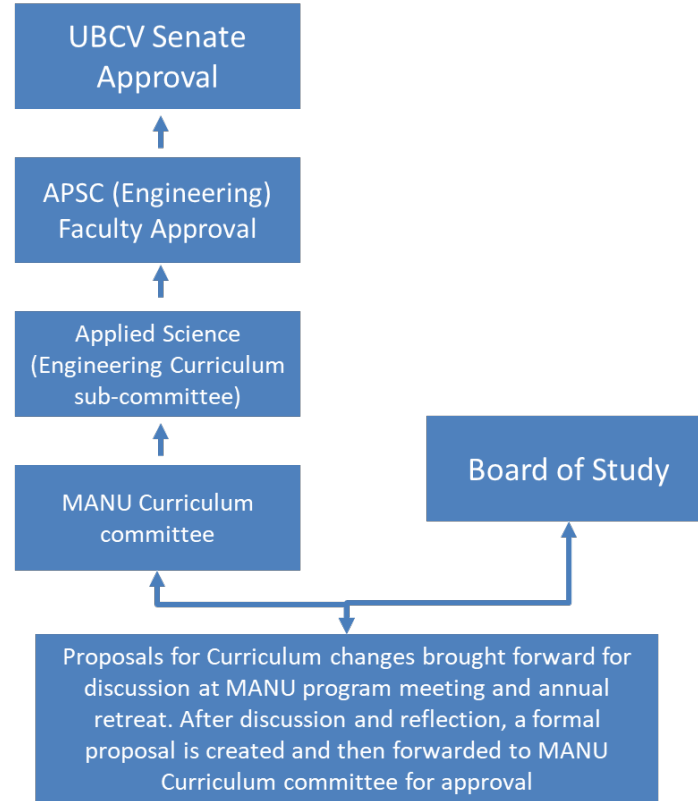
ORGANIZATION



CURRICULUM COMMITTEE

- Consists of all MANU faculty
- Multiple levels of approval for curriculum changes
- Curriculum Committee is the central decision making body in MANU
- MANU program meeting is for discussion and dissemination

Vancouver Curriculum Process



CONTINUAL IMPROVEMENT

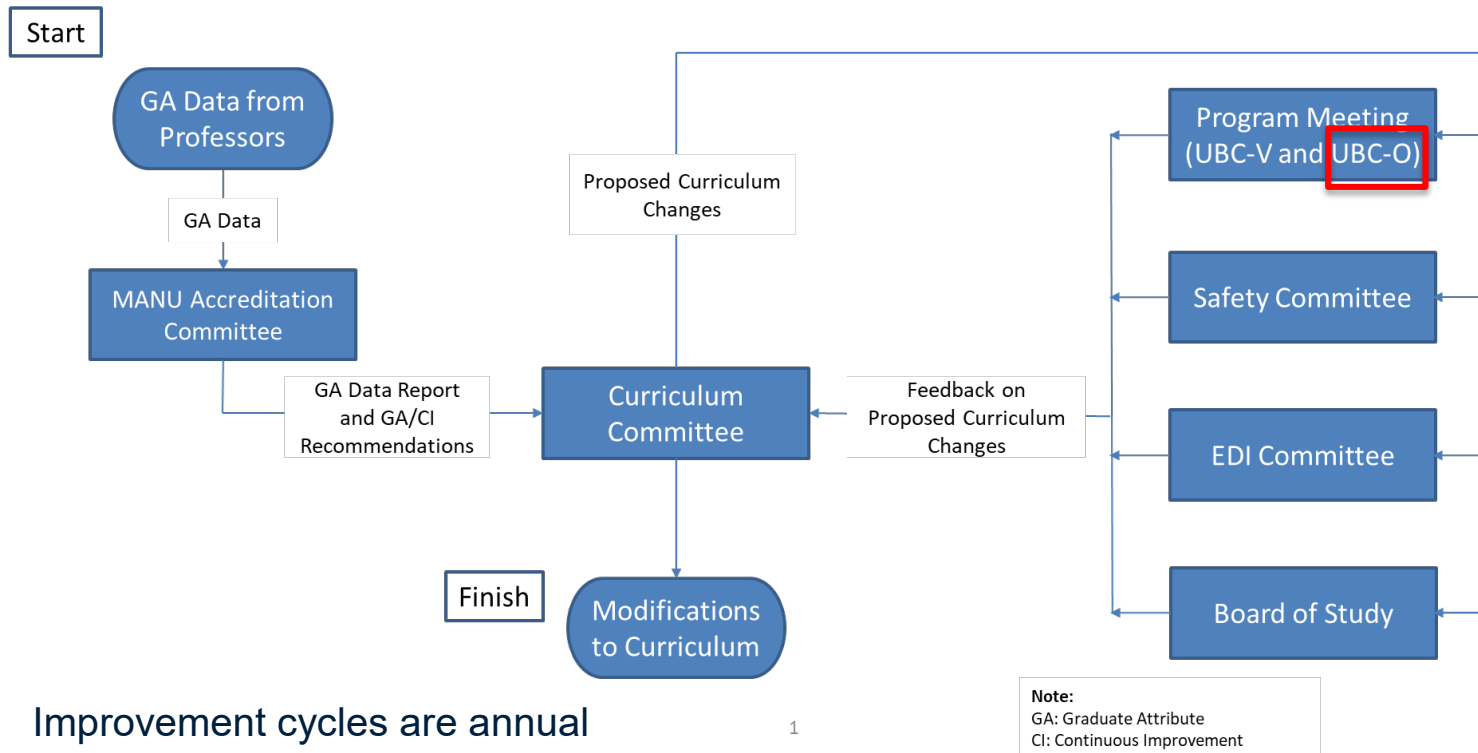


CONTINUAL IMPROVEMENT

- Demonstrated Continual Improvement is essential for accreditation
- GA-driven continual improvement
 - Results from course level GA analysis
 - Deficiencies reviewed by the Curriculum Committee
- Non GA-driven continual improvement
 - Feedback from students, faculty, industry, and alumni
 - Generated annually through surveys, informal meetings, formal feedback, and committees
 - Reviewed by Curriculum Committee



CONTINUOUS IMPROVEMENT PROCESS

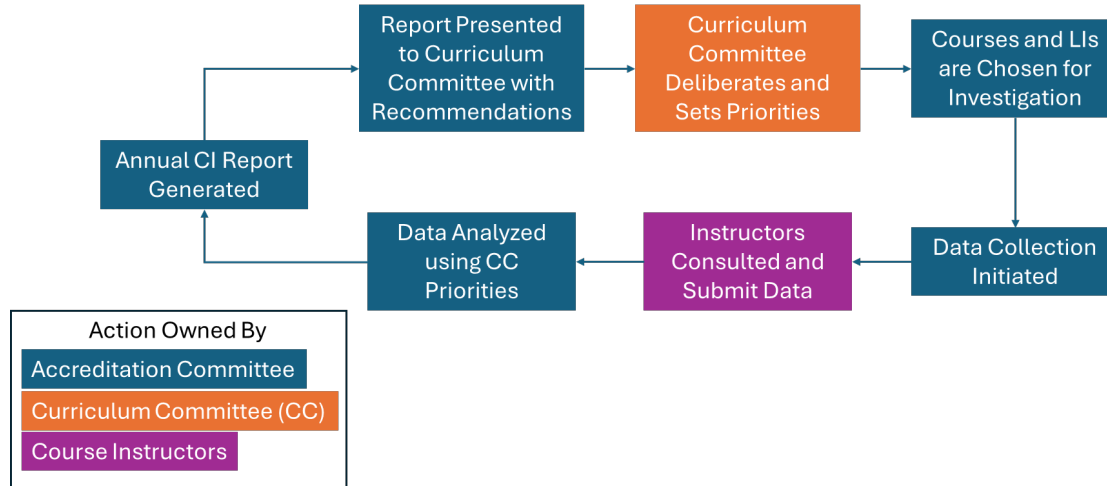


- Improvement cycles are annual
- Meetings twice per year for curriculum modifications

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DATA COLLECTION AND REPORTING STRATEGY

- Courses chosen every year to support incremental program improvement



- Design spine chosen as focus for 2024W



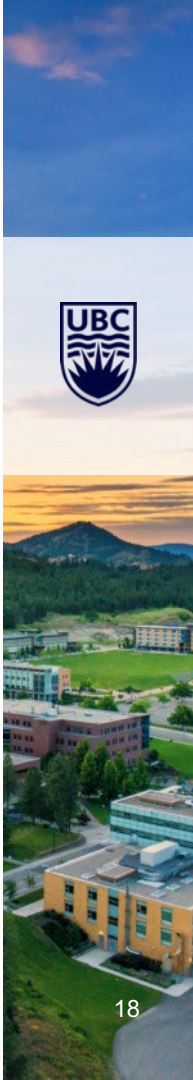
CONTINUAL IMPROVEMENT

- Continual improvement is a key element of what we do.
- We are of course eager to promote excellence and find ways of enhancing provision.
- Many of the interactions we have e.g. Beef and Pizza, feedback to Professors are designed for us to gather feedback. It is down to all colleagues to promote this and effect positive change
- Take opportunities for improvement and be an agent of change.
- CEAB likes to see evidence for this.



IF YOU WOULD LIKE TO KNOW MORE

- Guidelines and instructions: <https://engineerscanada.ca/accreditation/accreditation-resources>
- Tutorial on Course information sheets (CIS):
<https://engineerscanada.ca/accreditation/accreditation-improvement-program/aip-news/course-information-sheet-video-tutorial-now-available>
- Our APSC contacts:
 - Carol Jaeger
 - (Dean's Office)
- APSC Accreditation Sharepoint site: <https://apsc.share.ubc.ca/teams/accreditation>





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