Understanding capstone experience

- through overseas examples
& pilot focus group results

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Outline

1. Introduction of Capstone course
2. Project summary
3. Compare across the faculties
4. Compare within the faculty
5. Pilot focus group study
6. Concluding remarks
7. Questions

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What is a Capstone Course?

- **Culminating experience** of overall university life

- Encourage students to **synthesize** knowledge and skills across the college experience

- **Review student development** at the highest level achieved before graduation

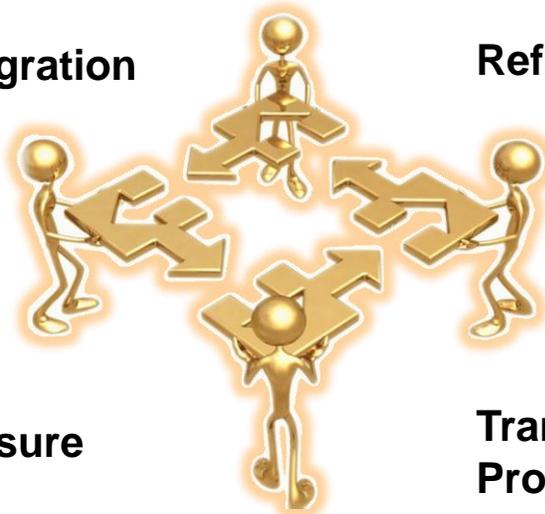- Facilitate **transition from undergraduate studies to postgraduate life (work / further studies)**
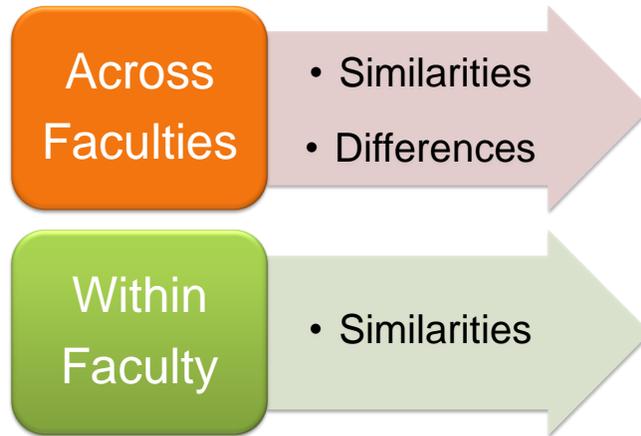
3

Integration   **Reflection**

Closure   **Transition / Projection**

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Examples of Capstone Courses

Across Faculties → • Similarities • Differences

Within Faculty → • Similarities

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Across Faculties Capstone Courses

- 3 Faculties:

  Economics & Commerce, Natural Resources, Engineering & Applied Science

- Course information
- Comparison using:
  - Learning Activities
  - Assessment
  - Outcome

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Courses Information

	Business Practicum (BP)	**Environmental Sciences (ES)**	**Aerospace Engineering (AEng)**
Approach	Client-based	Problem-based	Product design
Target	Commerce majors	Environmental Sciences majors	Aerospace Engineering majors
Venue	University of Melbourne, Australia	University of California, Berkeley, USA	University of California, Los Angeles, USA
Period	Final year	Final year	Final year

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Learning Activities

Activities \ Course	**BP (MELB)**	**ES (UC Berkeley)**	**AEng (UCLA)**
Lectures	✓	✓	✓
Discussion		✓	
Others:	Meet Client		Fieldwork

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Assessment

Course \ Assessment	BP (MELB)	ES (UC Berkeley)	AEng (UCLA)
Oral presentation	✓ (10%)	✓	✓
Final Paper	✓ (20,000words, 60%)	✓	✓
Participation	✓ (10%)	✓	✓
Assignment	✓ (individual 10%,Group 10%)	✓	
Peer Assessment			✓

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Outcome

Outcome	Course	BP (MELB)	ES (UC Berkeley)	AEng (UCLA)
Knowledge	Being a professional	✓	✓	✓
Skills	Improve Communication skills	✓	✓	✓
	Enhance Interpersonal skills	✓		✓
	Develop Critical thinking skills	✓	✓	✓
	Advance Problem-solving skills	✓	✓	✓
Attitude	Life-long learning		✓	

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Outcome

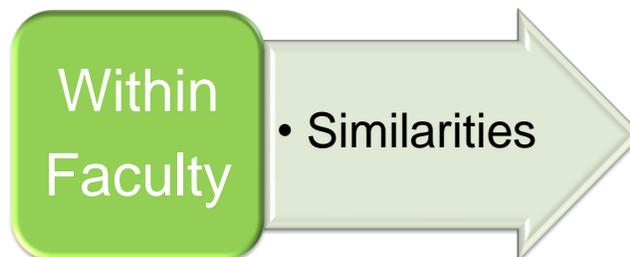**Proportion on KSA outcome achieved by various courses**
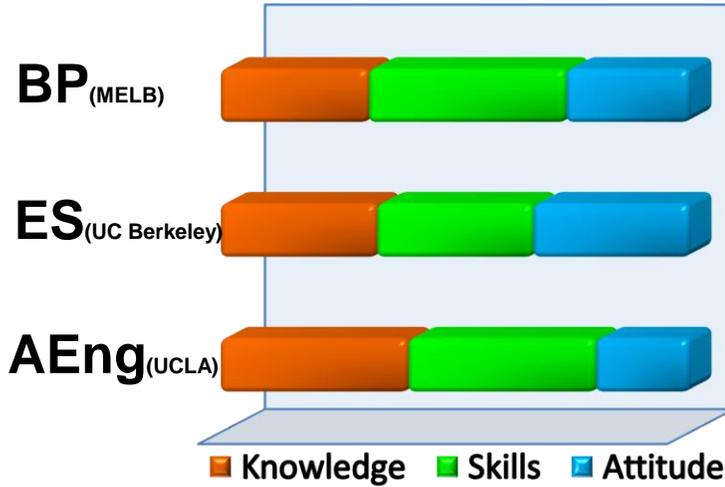
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Examples of Capstone Courses

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Within Faculty Capstone Courses

- Faculty of Engineering:
  Aeronautics, Mechanical Engineering,
  Computer Science
- Course information
- Comparison using:
  - Learning Activities
  - Assessment
  - Outcome

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Courses Information

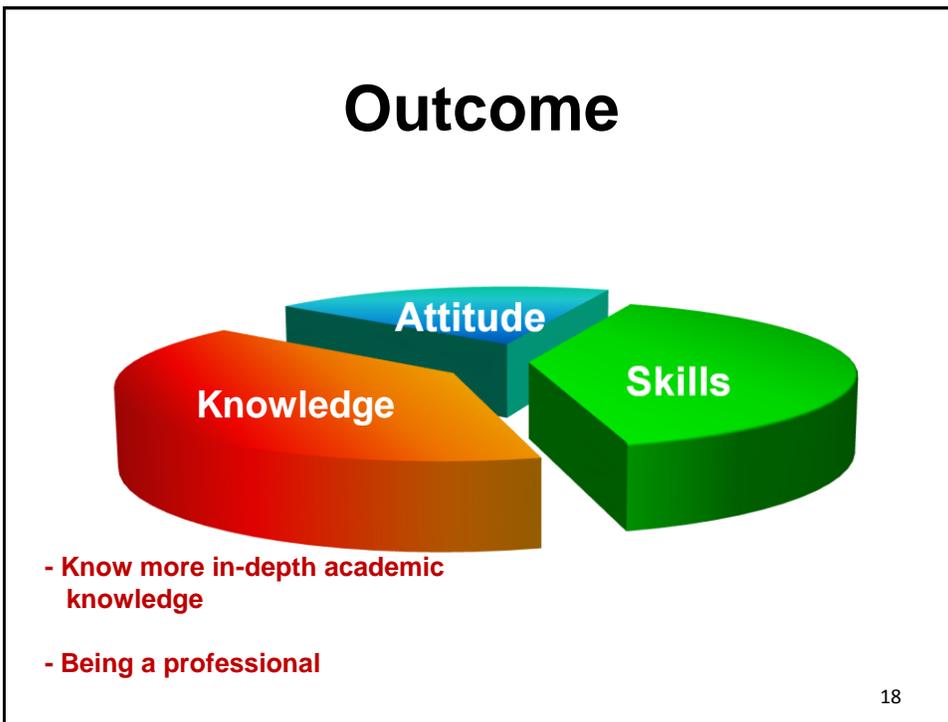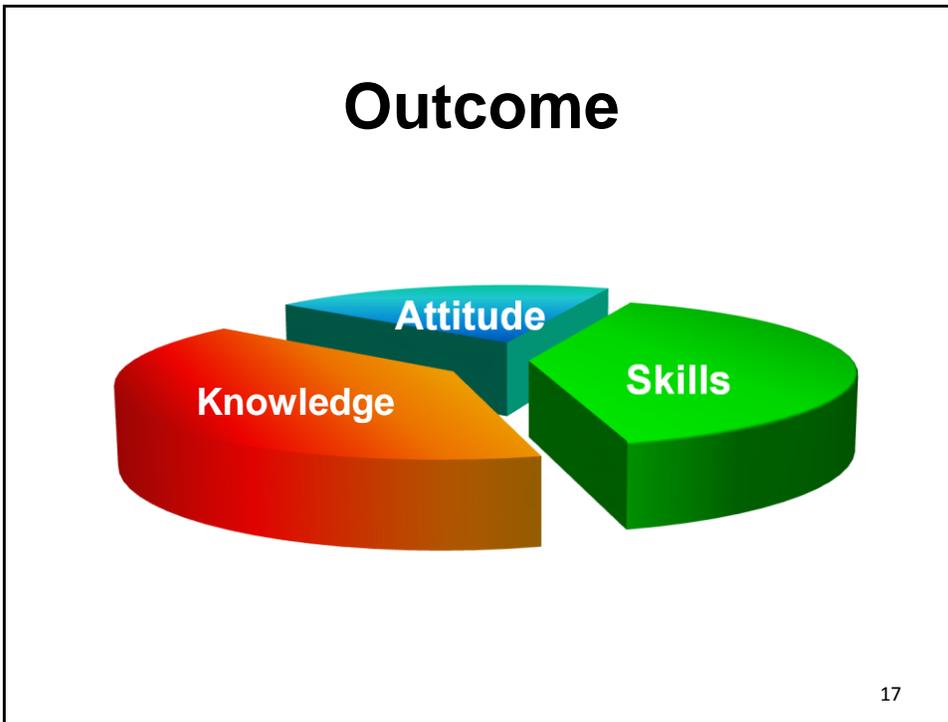|	Aeronautics	MECH	CS
Approach	CDIO approach	CDIO approach	Problem-based
Target	Aeronautics majors	ME majors	CS majors
Venue	Massachusetts Institute of Technology, USA	Queen's University, Canada	University of Colorado, Denver, USA
Period	Final year, three semesters	Final year	Final year, final semester

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Learning Activities

Course / Activities	Aeronautics (MIT)	MECH (Queen's)	CS (Colorado)
Meetings with industry professionals	✓	✓	✓
Conceive and Design	✓	✓	✓
Implementation	✓	optional	✓
Overseas conferences	✓		

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Assessment

Course / Assessment	Aeronautics (MIT)	MECH (Queen's)	CS (Colorado)
Final Report	✓	✓ (50%)	✓
Oral presentation	✓	✓ (30%)	
Progress Report/Journal		✓ (20%)	✓
Peer Assessment	✓		

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Outcome

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Outcome

- Know more in-depth academic knowledge

- Being a professional

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Outcome

- **Improve Communication skills**
- **Enhance Interpersonal skills**
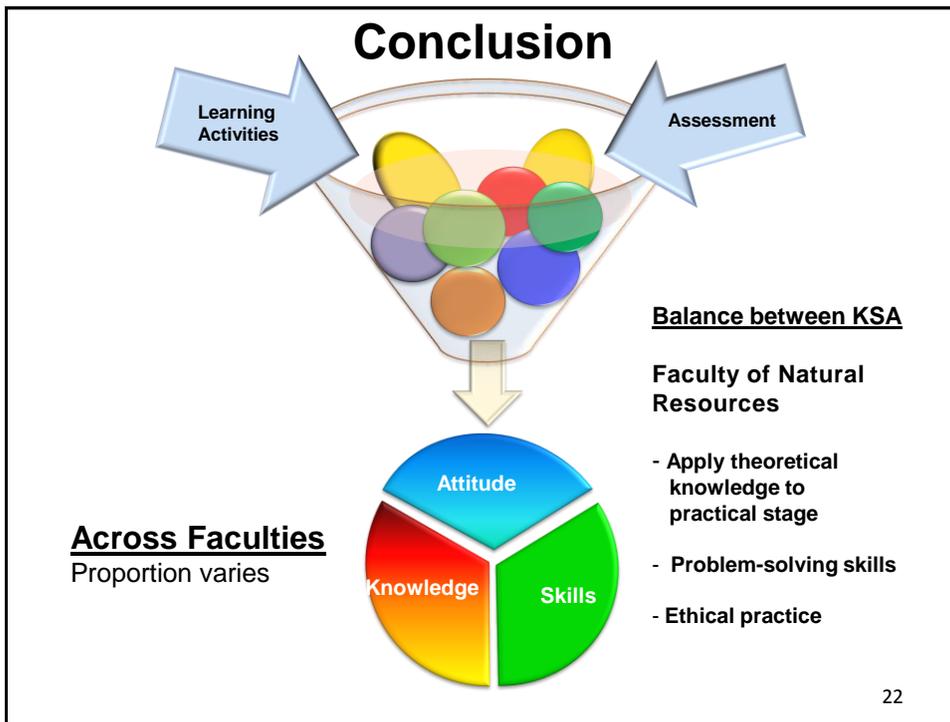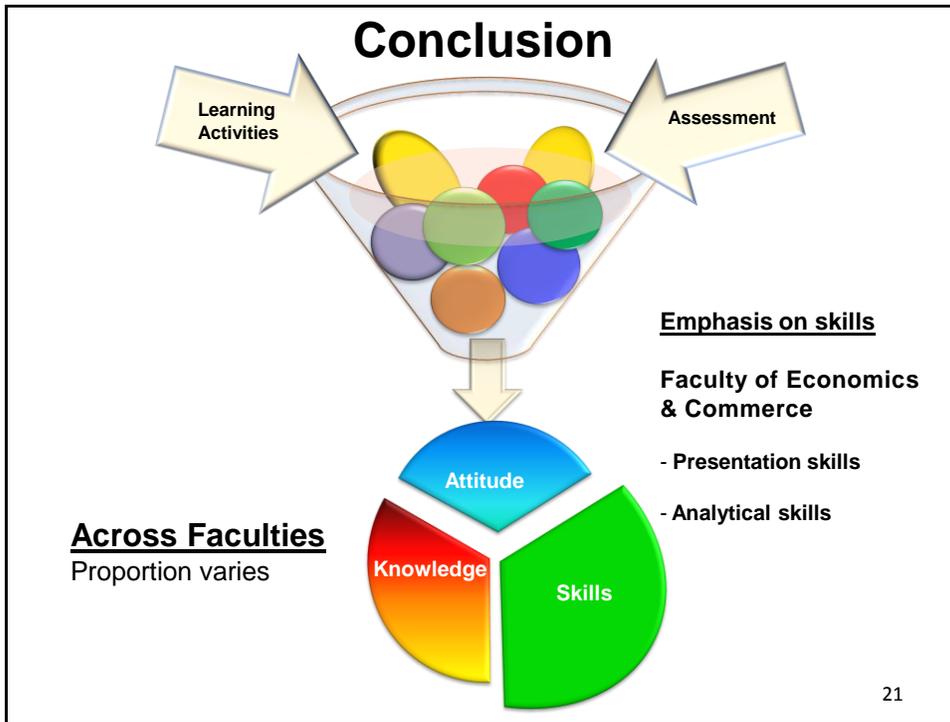
Attitude

Skills

Knowledge

- **Develop Critical thinking skills**
- **Advance Problem-solving skills**

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Outcome

- **Engage in Sustainable learning**

- **Ethical Practice**

Attitude

Skills

Knowledge

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Conclusion

Learning Activities

Assessment

Emphasis on skills

Faculty of Economics & Commerce

- **Presentation skills**

- **Analytical skills**

Across Faculties
Proportion varies

Attitude

Knowledge

Skills

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Conclusion

Learning Activities

Assessment

Balance between KSA

Faculty of Natural Resources

- **Apply theoretical knowledge to practical stage**

- **Problem-solving skills**

- **Ethical practice**

Across Faculties
Proportion varies

Attitude

Knowledge

Skills

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Conclusion

Learning Activities

Assessment

Emphasis on knowledge

Faculty of Engineering & Applied Science

- **Apply professional knowledge in product design**

Attitude

Across Faculties
Proportion varies

Knowledge

Skills

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Conclusion

Learning Activities

Assessment

Attitude

Within Faculty

Knowledge

Skills

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Pilot CU alumni focus group
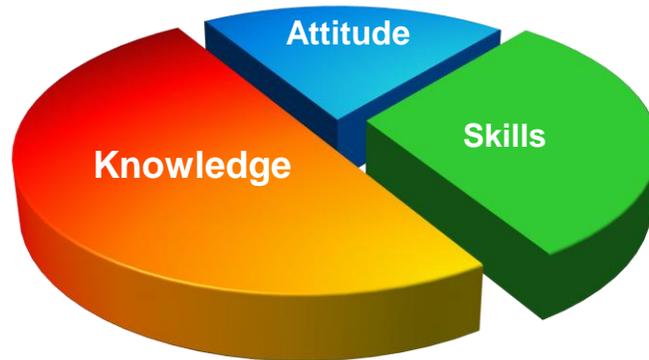
Feedback on final year project

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CU Alumni Feedback on Their Final Year Project (FYP)

Method used:	- Focus Group (pilot)
Objective:	- To obtain comments on their final year experiences - To gather their expected learning outcomes on FYP - To collect their suggestions on learning activities of FYP
No. of Targets:	Seven alumni
Discussion Topics:	- Skills acquired by FYP/ learning activities - What they would expect to gain from FYP - Suggestion on learning activities of FYP

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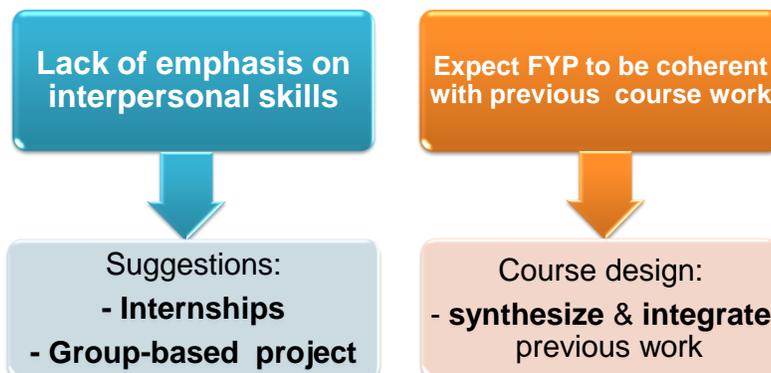# Findings on Pilot Focus Group

Skills acquired by FYP

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Preliminary Insights on Alumni Feedback

Lack of emphasis on interpersonal skills

Expect FYP to be coherent with previous course work

Suggestions:
- Internships
- Group-based project

Course design:
- **synthesize** & **integrate** previous work

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Concluding Remarks

Quarter 2
Oct 09 – Dec 09
-Design
 questionnaires
-Conduct pilot
 focus group
-etc.

Quarter 3
Jan 10 – Mar 10
-Conduct
interviews
-Write interview
reports
-etc.

Time line

Quarter 1
Jul 09 – Sept 09
-**Capstone framework**
-**Literature review**
-**etc.**

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