The following Motions were considered by the GFC Committee on the Learning Environment at its June 5, 2013 meeting:

Agenda Title: **Teaching, Learning and Technology (TLAT) Council Subcommittee on eTextbooks: Report and Recommendations**

APPROVED MOTION: THAT the GFC Committee on the Learning Environment, under delegated authority from General Faculties Council, adopt the scope of the former Teaching, Learning and Technology (TLAT) Council Subcommittee on eTextbooks, effective immediately and as set forth in Attachment 1.
.

Final Item: 4

Agenda Title: **GFC Committee on the Learning Environment (CLE) Subcommittee on the Status of Universal Student Ratings of Instruction (USRIs) Final Report for Approval**

APPROVED MOTION: THAT the GFC Committee on the Learning Environment (CLE) approve the final Report of the GFC CLE Subcommittee on the Status of Universal Student Ratings of Instruction (USRIs), as submitted by the Subcommittee's Chair and as set forth in Attachment 1.

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Final Item: 5

Agenda Title: **GFC Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies Final Report for Approval**

APPROVED MOTION: THAT the GFC Committee on the Learning Environment (CLE) approve the final Report of the GFC CLE Subcommittee on Attributes and Competencies, as submitted by the Subcommittee's Co-Chairs and as set forth in Attachment 1.

Final Item: 6

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FINAL Item No. 4

OUTLINE OF ISSUE

Agenda Title: **Teaching, Learning and Technology (TLAT) Council Subcommittee on eTextbooks: Report and Recommendations – Continuing Discussion**

Motion: THAT the GFC Committee on the Learning Environment, under delegated authority from General Faculties Council, adopt the scope of the former Teaching, Learning and Technology (TLAT) Council Subcommittee on eTextbooks, effective immediately and as set forth in Attachment 1.

Item

Action Requested	☒Approval ☐Recommendation ☐Discussion/Advice ☐Information
Proposed by	Teaching, Learning and Technology (TLAT) Council Subcommittee on eTextbooks
Presenter	José da Costa, Chair, TLATC Subcommittee on eTextbooks
Subject	eTextbook short-term and medium-term policy recommendations

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	This proposed set of recommendations addresses purchasing, technology, and pedagogy issues faced by the University community as eTextbooks become increasingly more common.
The Impact of the Proposal is	That the impact of the recommendations, if implemented, will affect purchasing practices of eTextbooks, technologies used to support eTextbooks, and pedagogy. Effects would be experienced by students, instructors, and support personnel at the department, Faculty, and University levels (including the University of Alberta Bookstore). Recommendations in the report move the University of Alberta from a passive position of being led by publishers to use electronic materials they want instructors and students to purchase to an active position of specifying what our instructors and students need and desire.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	As soon as possible.
Estimated Cost	N/A
Sources of Funding	N/A
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	*Dare to Discover* and *Dare to Deliver*
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	1. **The *Post-Secondary Learning Act* (*PSLA*)**, Section 26(1), gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs." GFC has thus established a Committee on the Learning Environment (CLE). 2. **GFC Committee on the Learning Environment (CLE) Terms of Reference**: Section 3 (*Mandate of the Committee*): "The Committee on the Learning Environment is a standing committee of the General Faculties Council that promotes an optimal learning environment in alignment with guiding documents of the University of Alberta. The Committee on the Learning Environment is responsible for making recommendations concerning policy matters and action matters with

	respect to the following: […] b) To review and, as necessary, recommend to the GFC Academic Planning Committee and GFC Executive Committee as relates to the development and implementation of policies on teaching, learning, teaching evaluation, and recognition for teaching that promote the University Academic Plan. […] d) To nurture the development of innovative and creative teaching practices. e) To encourage the sharing and discussion of evidence about effective teaching and learning. […] g) To promote projects with relevant internal and external bodies that offer unique teaching and learning opportunities that would benefit the university community. h) To consider any matter deemed by the GFC Committee on the Learning Environment to be within the purview of its general responsibility. Notwithstanding anything to the contrary in the terms of reference above, the General Faculties Council has delegated to the Committee on the Learning Environment the following powers and authority: To recommend to the GFC Academic Planning Committee and to the GFC Executive Committee broad policy directions for excellence in teaching and learning."

Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	GFC Committee on the Learning Environment/Teaching, Learning and Technology Council Joint Session (April 3, 2013) – for discussion; GFC Committee on the Learning Environment (June 5, 2013) – for discussion
Approval Route (Governance) (including meeting dates)	To be determined.
Final Approver	To be determined.

Attachments (each to be numbered 1 - <>):

1. Attachment 1 (pages 1 – 13): eTextbooks: Short-term and Medium-term Policy Recommendations for the University of Alberta: Report prepared by the Teaching, Learning and Technology (TLAT) Subcommittee on eTextbooks

Prepared by: José da Costa, Vice-Dean, Faculty of Education, jose.da.costa@ualberta.ca

eTextbooks:
Short-term and Medium-term
Policy Recommendations for the University of Alberta

Report prepared by the
Teaching, Learning and Technology (TLAT) subcommittee on eTextbooks

February 12, 2013

TLAT eTextbook subcommittee Policy Recommendations

While the usage of electronic textbooks is still in its formative days, there is no doubt that this technology will be widely deployed in academia in the near future. The University of Alberta must be prepared for this potentially disruptive technology. There is a misconception that this technology is mainly about replacing paper textbooks with electronic copies, thereby translating into reduced costs for students. The electronic format allows textbooks to become multimedia – incorporating sound, video, games, simulations, annotations, customizations, assessment, student-specific adaptation, and many other learning tools – giving rise to the opportunity for new forms of teaching and learning. It is too early to reliably predict how this technology will evolve and the rate at which it will be adopted. However, given its inevitability, the University must be forward looking and start preparing the foundation for adopting this technology.

During the consultation process for developing the University of Alberta's Information Technology Plan (http://www.vpit.ualberta.ca/itplan/) the issue of electronic textbooks was raised. This motivated the Vice Provost (Information Technology) to create a subcommittee with the mandate to investigate issues relating to this subject and give recommendations to guide the institution forward (see Appendix A for the committee's Terms of Reference). The document prepared by this committee will need to be revisited and revised regularly because of the changing nature of the publishing milieu and, particularly, the rapidly changing nature of digital publishing. A literature review of "eTextbook use and implementation in higher education," by Ewa Wasniewski and Donna Feledichuk, provides background to this policy recommendation document (see Appendix B).

The committee met seven times between April and October, 2012. These meetings included consultations with key stakeholders including the Book Store, Library, and Centre for Teaching and Learning, as well as external parties such as Nelson Education, Pearson Canada, Apple Canada, Symtext.

The following sections detail the key recommendations of the committee.

Objectives

1. Lower the overall cost of educational resources to University of Alberta students.
2. Enhance pedagogical experiences for students enrolled in University of Alberta classes.

Principles Underlying eTextbook Adoption and Use

Purchasing

1. Instructors should strive to make use of resources students will be able to use for more than one course.
2. The University of Alberta bookstore should develop an online individualized "bookshelf" populated with course eTextbooks on the basis of students' course registration information (i.e., retrieved from Bear Tracks); students should be able to purchase all necessary course-related readings from this bookshelf without having to visit other websites.
3. The digital "bookshelf" must provide students with information regarding the availability of alternate formats (i.e., hard-copy) of books and materials.
4. Instructors must ensure that all required course eTextbooks (if available from the publishers) are made available to students through the University of Alberta Bookstore.
5. eTextbook purchasers should be able to "upgrade" to new editions of publications, if they choose, at a nominal cost.

Technology:

1. Products should not compete with the University of Alberta LMS; any digital materials should integrate fully into the University LMS.
2. The University of Alberta should identify two or three platform-agnostic readers for which it will provide technical support to students and staff.

Pedagogy

1. eTextbooks should demonstrate concepts in ways that complement students' physical and virtual classroom experiences (e.g., multimedia).
2. Multimedia enhancements should enable instructors to more effectively use didactic and constructivist instructional approaches to support student learning.
3. eTextbook publishers should provide digital content which instructors can tailor to the needs of their course (including from within the University's LMS).

Recommended University Policies

Purchasing:

1. Collections of readings (e.g., journal articles, etc. compiled into "course-packs")for which the University of Alberta Library system already has licensing rights are distributed in ways which enable users to access the content without incurring additional cost; such distribution and access is compliant with Canadian Copyright law.
2. While students are always be able to choose where they wish to purchase their textbooks (electronic or conventional), all eTextbooks, if available from the publishers, are made available through the University Bookstore.

Technology:

1. eTextbook formats are readable on multiple, platform-agnostic readers.
2. Off-line access consists, minimally, of the equivalent of the print version of the textbook.
3. eTextbooks are compliant with the most current revision of the EPUB standard of the International Digital Publishing Forum (http://idpf.org/epub).
4. University supported eTextbook readers are able, minimally, to accept notes, export notes, highlighting, copy-and-paste text to other text editors, print, and be universally accessible to all learners regardless of ability or disability (see principles of Universal Design for Learning, http://www.udlcenter.org/aboutudl/whatisudl).
5. Technical support for approved eTextbook platforms is centralized within the University of Alberta.
6. The use of personal information through online eTextbook sites is subjected to a privacy impact assessment; eTextbook sites endorsed for use by the University of Alberta must be compliant with Alberta Freedom of Information and Protection of Privacy legislation.

Pedagogy

1. Students and instructors have the capability to share their eTextbook-related notes.
2. eTextbooks provide content in multiple ways to ensure that all students, regardless of ability or disability, are not disadvantaged by the medium used to represent the information (e.g., closed captioning for audio content, descriptive captioning for video content).

Next Steps for the University of Alberta

1. Organize a national conference focusing on eTextbook "theoretical understandings and best practices" at the post-secondary level.
2. Assume a national leadership role bringing together other post-secondary institutions to establish national standards.

Appendix A

Terms of Reference

This committee is tasked to examine the emerging issues regarding the use of electronic textbooks and, where possible, make recommendations that can help guide the institution forward. Its focus is on making policy recommendations to enable etextbook and e-course-pack practices at the U. of Alberta to move forward systematically. Some of the areas for consideration include:

Purchasing

- (Un)acceptable industry practices (e.g., access limitations; resale rights of purchased products)
- Pricing practices (e.g., cost savings; price/value trade-offs)
- Partnering with publishers

Technology

- eTextbook formats (e.g., publisher or platform-specific constraints)
- Integration with the University LMS (Moodle)
- Integration with the University Libraries systems
- Hardware (e.g., support for particular operating systems; mobile devices)
- Partnering with hardware vendors

Pedagogy

- (Un)desirable features in etextbooks
- How etextbooks might affect course delivery
- Pilot projects that can help build institutional expertise
- Address how and where insights gained from pilot projects will be collected and made available
- People resources (e.g., instructional designers) that will be needed to assist instructors to use this technology

The committee is encouraged to consider making recommendations that can help give guidance for the short-term (0-2 years) and medium-term (3-5 years). Long-term planning is impractical at this point in time.

Membership

Joe da Costa (Vice Dean, Education; committee chair)
Jonathan Schaeffer (Dean – Science; former Vice Provost, Information Technology)
Dustin Chelen (VP Academic, Students' Union)
Rob Washburn (Supervisor – Information Technology, Dean of Students)
Francis Yeh (Professor – Renewable Resources, Faculty representative)
Michael Bowling (Associate Professor – Computing Science, Faculty representative)
Keith Schmeidl (Director, Bookstore representative)
Kathryn Arbuckle (Interim Chief Librarian, University of Alberta Libraries)
Donna Feledichuk (Teaching and Learning Manager, Arts Resource Centre)
Linda Cameron (Director, University of Alberta Press)

Appendix B

Literature Review on
The Current State of eTextbooks Use and Implementation in Higher Education

Ewa Wasniewski
and Donna Feledichuk
University of Alberta

Authors' Note

Ewa Wasniewski, Doctoral Student, Department of Educational Psychology and Donna Feledichuk, Teaching and Learning Manager, Faculty of Arts.

This literature review was conducted as part of a research project on student engagement through mobile learning.

Correspondence concerning this article should be addressed to Donna Feledichuk, Teaching and Learning Manager, Faculty of Arts, 418B Arts & Convocation Hall, University of Alberta, Edmonton, AB T6G 2E5, Canada. E-mail: feledich@ualberta.ca

Literature Review on the Current State of eTextbook Use and Implementation in Higher Education

The history of the textbook has always been changing and evolving. Dating back to the ceca 200 B.C.E, the earliest surviving Chinese mathematics textbook had similarities in the approaches found in current mathematics textbooks (Heider et al., 2009). During the Renaissance when the printing press was created, textbooks became a way to reflect the social norms and in the 1700s newer editions starting recreating popular concepts. Currently, with the increase of technology, the demand for textbooks to be printed and distributed quickly has posed a challenge for publishers to include current and accurate content. Further, the cost associated with the production of textbooks has increased, as a result many students have chosen to purchase used books instead of buying the newer version. Heider, Laverick and Bennett (2009) state that "Americans colleges and universities are in the midst of a shift in educational philosophy which has its roots in the constructivist movement of the 1970s but has gained considerable momentum in recent years" (p. 103). As such many publishers have started to work with individual institutions in collaboration to create course specific textbooks that incorporate software searching capabilities, color photos and diagrams, video additions and interactive questions (Heider et al., 2009). Currently there has been a surge of various sites that distribute etextbooks allowing students for a fee to register and then have unlimited access to a variety of digital textbooks.

While these sites continue to expand, unfortunately, there still needs to be an attitudinal shift for the digital textbook to become accepted. In 2010, the National Association of College Stores in the US reported etextbook revenue as 3% of the total textbook revenue for that year (Foderaro, 2010). While that share is predicted to grow to 10 or 15% by 2012 (Foderaro, 2010) it is still nowhere near surpassing print textbook sales.

Realizing the rising cost of textbooks has resulted in a decrease of purchases being made by students, Acker (2008) explains that "this 'print-on-demand' model suggests a strategy to move from generic texts to custom digital context, and one in which college bookstores can play an important role" (Acker, 2008, p. 2). In order for this to occur, Heider et al. (2009) cites two initial changes that need to happen, first there needs to be a change with students' sharing textbooks and second students need to upgrade their personal computer systems to accommodate digital content format.

Student Use of eTextbooks

Trying to find recent research on student use of etextbooks that reflect new changes in formats was challenging. A scant number of articles dealing with current perceptions by students are readily available and by the time those papers are published in peer review journals the technology being referenced is already over two years old if not longer. Recent indications in studies even in print in 2011 and 2012 still present a preference for undergraduate students for print textbooks over e-books despite significant cost savings.

Woody, Daniel and Baker (2009) introduced an etextbook version of the course text to 91 students in an undergraduate psychology. The average age of the student was 19.1

years, 45 of the participants were males and 46 females. In their study they found neither gender nor comfort with computers as indicators in preference for etextbooks. They also found no association with preference for etextbook with previous use of e-books in general. Earlier studies (Young, 2000) however, had shown comfort with computers as a predictor for etextbook usage. Woody, Daniel and Baker (2009) hypothesized this difference is due to millennium freshman as the current University freshman, whom spend a proportion of each day interacting with computers.

Interestingly in this study although they reported no difference in terms of learning outcomes with etextbook versus print textbook, students reported using each format differently. In print textbooks students were more likely to read captions and charts. In etextbooks students were more likely to read section summaries and answer questions. Additionally although etextbook users can examine online content through embedded links they were not more likely to engage in these activities in e-books than in print books. Students preferred regardless of previous e-book usage, gender, or level of comfort with a computer print texts for learning.

Shepperd, Grace and Koch (2008) also confirmed no difference in achievement of student learning outcomes in print versus etextbook format. Their study also investigated student buying patterns. They found at that time that 90% of students when given the option of purchasing an e-book or more expensive textbook choose the more expensive textbook despite easy access to and in-class demonstration of the e-book.

The Louisiana State University School of Dentistry adopted electronic textbooks for all students in there program back in 2005 (Brunet, Bates, Gallo and Strother, 2011). In 2008 they surveyed the students and found dissatisfaction with most features of the bookshelf the etextbooks were available through. It was believed that incoming students would be more accustomed and more open to etextbooks, so a survey was developed for first year dental students in the class of 2013. After 9 months of use 66% of students indicated they were comfortable with reading print etextbooks up to 57.3% of the students surveyed in 2008. Also only 9 students of the 55 responding had previously used an etextbook in another college course. Their study which includes over seven years of data collection has indicated that students preferred etextbooks for the ability to search topics especially when able to access the entire library of dental textbooks through the electronic bookshelf, but not for reading large amount of text.

In a 2012 study by Miller, Nutting, and Baker-Eveleth the determinants of electronic textbook use among college students was investigated. They found that students from larger high schools whom owned their own desktop computers were more likely to have used an electronic text. Students in programs deemed to be more technical such as Business, Economics, Engineering, and Science were also more like to have used an electronic text than those in Arts or Social Sciences. Further students that are dependent on scholarships or loans were more likely to have used on electronic text, the authors suggest this implied that etextbooks are perceived as inferior to print textbooks.

Implementation Case Studies

Cornelius, Meloy, Gallagher and Gordon (2011) reported preliminary results on a digital book initiative that they are conducting at an America College for Nursing and Health Professions. Courses at the institution are offered at a fast 10-week quarter system and students move between being on campus and their various placements. The faculty decided that they needed to seek out textbook technologies that can support students' learning and studying more effectively. In determining a solution for etextbooks three main areas were consider: the use of one vendor vs multiple vendors, implementation stratifies, and the timeline for implementation (Cornelius et al., 2011). A decision was made by the faculty to use one vendor for all of the textbooks therefore providing the same platform and navigation between all e-books. "It was decide, that although implementation of e-books across the curriculum would be labor intensive at first, the return on the investment would be realized over time as both students and faculty mastered related skills to fully utilize the resources available in an all-electronic textbook platform" (Cornelius et al., 2011, p. 2396). The overall timeline from the decision to the implementation of the etextbook platform was just over three months, however the researchers have noted that ongoing collaboration and communication is critical for the continuation of this study. In the pre-implementation of this project obtaining buy-in from faculty and students was critical therefore part of the pre-implementation involved orientation of faculty, specifically providing familiarization of the etextbook and orientation to the full array of resources available in the digital version. Faculty was also supported with one-to-one help sessions that focused on how to incorporate the etextbook into their lectures. Students were provided time in-class to learn different e-resources that provided 'just in time' information to support their individual learning. Some of the initial and ongoing support included: in-house IT support, ongoing vendor support, user outreach and administrative/organizational supports. One of the key recommendations that Cornelius et al., (2011) reported in this preliminary paper is that institutions need to "look before they leap," to ensure the correct product is chosen for the purpose.

eText Ohio through support of OhioLink library consortium has opted to focus on faculty members who teach large introductory courses in colleges and university across the state (Acker, 2008). This has been one of the first projects for implementing etextbooks for large undergraduate courses. A few areas of dissatisfaction have been noted in this pilot that Acker (2008) summarizes as: technology, organization, inconvenience, lack of flexibility, all related to the etextbook and an issue in that the faculty does not use the required etextbook themselves. It is suggested however that planning for digital instruction can minimize some of the areas of dissatisfaction. "Working backwards from those objectives, the pedagogy and the learning materials that support that pedagogy would be carefully selected to help the students meet those objectives" (Acker, 2008, p. 3). Another project, at Southwest Baptist University, "finds the faculty working with students using digital texts face a new kind of literacy challenge because students scan books as strings of found phrases, jump over the linear progress of the author's idea development" (Acker, 2008, p. 5). Concerns have identified that moving to a digital textbook could increase the digital divide among students. Acker suggests that due to this new and emerging change in post-secondary education, more institution needs to examine their

own implications of the etextbook implementation and evaluate the effect on faculty and students alike.

Davy (2007) explored the evolution of the textbooks and the decline of textbook use reported by students and provided the following role of textbooks in education, "the textbook is a synthesis of current knowledge, not a primary research tool or a contribution to cutting-edge thinking" (Davy, 2007, p. 98). Davy (2007) suggests that the evolution of the textbook is not linked to pedagogical effectiveness rather it has evolved due to economic demand. "Today's students want results at minimum cost, particularly when they're paying hefty tuition and other mandated fees. They often have short attention spans, and they expect very user-friendly presentation" (Davy, 2007, p. 99). His analysis continued to report his comparison on the noted advantages and disadvantages of print textbooks versus digital ones.

Textbook	Digital
+ portable	+ i-pods, mobile phones
+ tactile	+ i-pods, mobile phones
+ no equipment required	+ ubiquitous items
+ text better on paper	+ e-paper, print on demand
+ organizing framework	+ learner journeys
- linear	+ interactive
- single medium	+ multiple media
- too much or too little	+ as much as you need
- single learning style	+ individual learning styles

Table 1. Relative advantages (+) and disadvantages (-) of print and digital textbook

(Davy, 2007, p. 100)

The purpose of any learning resource is to assist the learner to move from data information knowledge to understanding and then applying. Educators need to be cautioned that digitizing a textbook does not provide any advantages over a paper copy if it is just reproduced. "Thirdly, a well-constructed online learning resource offers students a learning experience that is much richer, deeper, more engaging and more effective than any textbook. Delivered to a mobile phone, i-pod or PDA, digital materials can also be fully portable" (Davey, 2007, p. 101). This does not mean only providing textbooks in a PDF format, educators need to work with publishers to develop digital textbooks that meet their learners' needs. It is possible to tailor content for specific individual needs or a particular learning style. Finally, Davy (2007) provides suggestions to Universities in three different areas when planning on using digital textbooks.

> To university management: compete for students' attention as well as fee income. If you prescribe digital courseware, you will be able to give your students much better value for money and help them get better results. Better still, build all learning resources into the course fees and you will be able to negotiate great deals with

> publishers. To librarians: as campus bookshops continue to close, there has never been a better time to increase the influence of the library and its status within the institution. This will require some redefinition of the role of the librarian and a more proactive approach to marketing. And, finally, to publishers: traditional textbooks will not become extinct any time soon, but you need to think "outside the book." (Davy, 2007, p. 102)

In an article on the transformation in higher education with the introduction of digital books McCarthy (2011) wrote that "though our research explored a seemingly constant stream of new formats, devices, and business models, one common theme emerged: a digital transformation in higher education can succeed only if it is tailored to the unique needs of students in the academic setting" (McCarthy, 2011, p. 22). Post-secondary students do not just read their books but interaction with them by highlight and place notes. "Tablets like the iPad and color e-readers such as NOOKcolor are evolving toward these requirements, but by themselves, they cannot support a student's needs" (McCarthy, 2011, p. 22). McCarthy (2011) noted the most commonly requested features from student for digital books are: highlighting and annotation, content tagging, full-text search, faculty sharing of annotation and highlights, integration with LMS systems, web resource lookup, and study tools and suggested that platforms for digital textbooks institutes should assess the platform in both reading and also studying criteria.

Conclusions

Although there are definite and exciting advantages to etextbooks such as providing an environment where students can interact and engage with the material in a different way, as well as e-book reader characteristics such as searchability, annotation, and highlighting, as well as quickly updating versions there are some challenges that are unique to etextbooks. For example graphics and mathematics are more difficult to transmit on popular e-readers such as Amazon's Kindle. Hard copies are also not prone to viruses and they allow the reader to quickly flip through the book, make notes in margins, and bookmark pages. Although this capability is available in e-book formats it is not as quick to access as in print versions (Foderaro, 2010).

As devices such as the iPad make etextbooks more portable, and continue to improve screen display, the etextbook may become a more attractive avenue for students. However research continues to indicated that students even with a significant cost saving still prefer print textbooks over their electronic counterparts.

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FINAL Item No. 5

OUTLINE OF ISSUE

Agenda Title: **GFC Committee on the Learning Environment (CLE) Subcommittee on the Status of Universal Student Ratings of Instruction (USRIs) Final Report for Approval**

Motion: THAT the GFC Committee on the Learning Environment (CLE) approve the final Report of the GFC CLE Subcommittee on the Status of Universal Student Ratings of Instruction (USRIs), as submitted by the Subcommittee's Chair and as set forth in Attachment 1.

Item

Action Requested	☒Approval ☐Recommendation ☐Discussion/Advice ☐Information
Proposed by	Bill Connor, Chair, GFC Committee on the Learning Environment
Presenter	Sheree Kwong See, Interim Director, Centre for Teaching and Learning (CTL), and Chair, GFC Committee on the Learning Environment (CLE) Subcommittee on the Status of Universal Student Ratings of Instruction (URSIs)
Subject	Report of the Subcommittee on the Status of USRIs for the approval of GFC CLE

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	At the October 3, 2012 meeting of GFC CLE, the Committee's Chair proposed that a 2009 report of a previous GFC CLE subcommittee examining the evaluation of teaching at the University of Alberta and, in particular, use of USRIs be revisited and called for a group of volunteers to form a subcommittee to lead discussion and make recommendations based on the 2009 document. A draft report of this subcommittee was brought to GFC CLE May 1, 2013 for discussion, and the final report is now being forwarded to GFC CLE for approval.
The Impact of the Proposal is	See 'Purpose'.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	To be determined.
Estimated Cost	N/A
Sources of Funding	N/A
Notes	Dr Kwong See has noted that GFC CLE may be asked to consider an additional Motion with regard to the recommendations contained within the final Report of the GFC CLE Subcommittee on the Status of USRIs. She has suggested that the possible wording for this additional Motion may read, as follows: "That a working group be struck to determine how to promote consistent interpretation and implementation of policy. To ensure continuity, at a minimum, one member from this subcommittee [ie, the GFC CLE Subcommittee on the Status of USRIs] should be a member of the working group."

Alignment/Compliance

Alignment with Guiding Documents	*Dare to Discover* Values: to provide an intellectually superior educational environment; integrity, fairness, and principles of ethical conduct built on the foundation of academic freedom, open inquiry, and the pursuit of truth.
Compliance with Legislation, Policy and/or Procedure	1. **The *Post-Secondary Learning Act* (*PSLA*)**, Section 26(1), gives General Faculties Council (GFC) responsibility, subject to the authority of

Relevant to the Proposal (please quote legislation and include identifying section numbers)	the Board of Governors, over "academic affairs." GFC has thus established a Committee on the Learning Environment (CLE). 2. **GFC Committee on the Learning Environment (CLE) Terms of Reference**: Section 3 (*Mandate of the Committee*): "The Committee on the Learning Environment is a standing committee of the General Faculties Council that promotes an optimal learning environment in alignment with guiding documents of the University of Alberta. The Committee on the Learning Environment is responsible for making recommendations concerning policy matters and action matters with respect to the following: […] b) To review and, as necessary, recommend to the GFC Academic Planning Committee and GFC Executive Committee as relates to the development and implementation of policies on teaching, learning, teaching evaluation, and recognition for teaching that promote the University Academic Plan. c) To develop policies that promote ongoing assessment of teaching and learning through all Faculties and units. d) To nurture the development of innovative and creative teaching practices. e) To encourage the sharing and discussion of evidence about effective teaching and learning. f) To promote critical reflection on the impact of broad societal changes in teaching and learning. g) To promote projects with relevant internal and external bodies that offer unique teaching and learning opportunities that would benefit the university community. h) To consider any matter deemed by the GFC Committee on the Learning Environment to be within the purview of its general responsibility. Notwithstanding anything to the contrary in the terms of reference above, the General Faculties Council has delegated to the Committee on the Learning Environment the following powers and authority: To recommend to the GFC Academic Planning Committee and to the GFC Executive Committee broad policy directions for excellence in teaching and learning." 3. **Standing and Other Committees of General Faculties Council (GFC) General Terms of Reference**: "[…] **9. Delegations and Referrals** Each standing committee has the power to refer or delegate specific matters under its authority to another GFC Standing Committee, to a Sub-Committee, or to an academic or administrative unit unless GFC expressly restricts referral or delegation or the other GFC Standing Committee, Sub-Committee or unit refuses to accept the referral or delegation. […]"

FINAL Item No. 5

Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	GFC Committee on the Learning Environment Subcommittee on the Status of Universal Student Ratings of Instruction; GFC Committee on the Learning Environment (May 1, 2013) – for discussion and advice
Approval Route (Governance) (including meeting dates)	GFC Committee on the Learning Environment (June 5, 2013) – for approval
Final Approver	GFC Committee on the Learning Environment

Attachments (each to be numbered 1 - <>):

1. Attachment 1 (pages 1 – 4) – GFC Committee on the Learning Environment (CLE) Subcommittee on the Status of Universal Student Ratings of Instruction (USRIs) Final Report

Prepared by: Sheree Kwong See, Interim Director, Centre for Teaching and Learning, and Chair, GFC CLE Subcommittee on the Status of URSIs, kwongsee@ualberta.ca

UNIVERSITY OF ALBERTA

Report of the GFC Committee on the Learning Environment Subcommittee on the Status of USRIs (June 5, 2013)

Background

"[The] interdependence and integration of research and teaching is what distinguishes a university from other educational institutions. Although the balance between these activities may vary, all members of the university, whether scholars or students, are learners who extend the range of their knowledge through exploration and discovery, and they are teachers who communicate that knowledge to others." (GFC 111.1)

Because both research and teaching are central to our mission as a university, discussion and support of teaching and learning are of paramount importance. The GFC Committee on the Learning Environment (CLE) is the committee responsible for the promotion of excellence in teaching and of an optimal learning environment, as well as with the provision of appropriate information resources to the university community as a whole. It is within the scope of CLE to develop policy to promote ongoing assessment of teaching and learning at the University.

At the October 3, 2012 meeting of the CLE the Chair proposed that a 2009 report of a previous CLE subcommittee examining the evaluation of teaching at the University of Alberta, and in particular use of Universal Student Ratings of Instruction (USRIs) (see Evaluation of Teaching at the UofA Report of the Subcommittee of the CLE 2009 available for download http://www.governance.ualberta.ca/en/GeneralFacultiesCouncil/CommitteeontheLearningEnvironm/CLESubcommitteeReports.aspx), be revisited and called for a group of volunteers to form a subcommittee to lead discussion and make recommendations based on the 2009 document.

Committee Composition

The following volunteers from CLE agreed to serve on the subcommittee:
Nathan Andrews, Vice-President (Academic), Graduate Students' Association
Dustin Chelen, Vice-President (Academic), Students' Union
Bill Connor, CLE Chair, Vice-Provost (Academic Programs and Instruction)
Larry Kostiuk, Representative for Department Chairs, External to CLE
Sheree Kwong See, Interim Director Centre for Teaching and Learning, Subcommittee Chair
Rachel Milner, Academic Staff, Member of GFC

Committee Mandate

The mandate of the subcommittee was to review the recommendations of the 2009 document, fully consider the recommendations on behalf of CLE, discuss which of and how

the recommendations might be actualized, and in so doing, identify potential changes to GFC policy for consideration by CLE.

Meeting Schedule

The subcommittee met six times to review recommendations of the 2009 document:
November 19, 2012
December 13, 2012
January 31,2013
February 19, 2013
March 12, 2013
March 26, 2013

Summary of Subcommittee Discussion

The previous 2009 document that was the focus of the subcommittee's work made four (4) recommendations. These recommendations are highlighted in bold below. On behalf of the full CLE, the subcommittee had fulsome discussion to flesh out the meaning of the recommendations in the current climate and about how the recommendations might be actualized. Following is a summary of discussion by the subcommittee.

1. **The purpose of the USRI needs to be determined:**
   Is it to improve teaching at the University of Alberta?
   Is it to provide data for evaluating teaching for FEC?

Recommendation 1: Purpose

USRIs in the current form (questionnaire items and open ended comments) have two purposes: formative and evaluative/summative. Though not exclusively, the open ended comments can provide particularly useful information for improvement of teaching (formative). Though not exclusively, student responses to the questionnaire items can if used appropriately and as part if a multifaceted evaluation of teaching, provide useful data for evaluation of teaching. The current purposes of the USRIs are to improve teaching and provide data for summative evaluation. Any revision to USRIs should maintain both components in some form.

2. **USRI instrument**
   a) The use and administration of the USRI (or equivalent instrument) needs be considered in a broader context. Specifically, a teaching evaluation instrument (with proper metrics) should be used in a broader context within course and program evaluation (for examples, see Appendix D from Australia and the UK).
   b) If a decision is made to continue with the administration of teaching evaluation instruments (i.e., the USRI), based on our re view of the literature

we recommend that a professionally developed instrument be created by an expert in this area to ensure validity and reliability.

Recommendation 2a,b: Context, Redevelopment

The use and administration of USRIs should not be focused exclusively on instruction but should also include questions that shed light on the context of teaching and learning. The group does not feel it is within its scope to suggest what else (i.e., whether items providing information on appropriateness of course content and fit in program should be included or not) or in what order questions should be asked. It was felt, however, that USRIs should ask for feedback on more than the instructor's teaching and should have the purpose of enhancing the quality of the student educational experience.

Student feedback is an important component of a multi faceted evaluation of teaching. At the time GFC policy 111 is revisited for inclusion in UAPPOL, this would be the time for revisions (e.g., providing greater clarity on procedures associated with data confidentiality vs. anonymity). At that time principles of good teaching/learning at the University of Alberta needs to be reaffirmed.

It was determined that if USRIs are to be revisited, no one external expert could capture the complexity of purposes of the USRI. Rather, a group, including internal expertise, some members of which have expertise in psychometrics, should be charged to revisit questions and USRIs.

3. Multi-faceted Evaluation

The USRI is designed to be a part of a broader teaching evaluation. Chairs, Deans,
Supervisors and Faculty continue to struggle with this in FEC (see Appendix A). As per GFC policy, we need an accompanying set of possibilities and/or examples to be used as a guide for facilitating effective multi-faceted evaluation.

Recommendation 3: Multifaceted Evaluation

Concern exists that the item "overall the instructor is excellent" is too dominant in the measure of teaching for the evaluation of instructors. The USRI is designed to be part of a broader teaching evaluation, and in fact per GFC policy, it is supposed to be multifaceted in nature in the sense that it captures the entirety of the teaching and learning experience for the improvement of both students and instructors. What is needed, however, is a guide (or training process) as to what constitutes multifaceted evaluation. The creation such a guide will require a specific working group to be struck with the goal of identifying and developing a set of possibilities and/or examples that will facilitate the kind of evaluation existing policy requires of Faculties.

4. GFC Policy
Quite simply, existing policy is in need of updating

Recommendation 4: GFC Policy

GFC policy does not generally need updating. There is ample clarity in the existing policy as to what USRIs entail and should be used for. What is needed is consistent interpretation and effective implementation across all faculties in a way that accomplishes the multiple purposes of USRIs.

Next steps

The subcommittee suggests:

That a working group be struck to determine how to promote consistent interpretation and implementation of policy. To ensure continuity, at a minimum one member from this subcommittee should be a member of the working group.

In conjunction, that the Provost's Office begins the process of moving GFC policy section 111 to UAPPOL.

Reference and Resource Documents

- GFC Policy Manual section on Teaching and Learning http://www.gfcpolicymanual.ualberta.ca/en/111TeachingandLearningandTeach.aspx
- Evaluation of Teaching at the UofA Report of the Subcommittee of the CLE 2009 available for download http://www.governance.ualberta.ca/en/GeneralFacultiesCouncil/CommitteeontheLearningEnvironm/CLESubcommitteeReports.aspx

Governance Route

- TOR for Subcommittee (CLE approval January 30, 2013)
- Subcommittee Report (CLE May 1, 2013 for discussion)
- Subcommittee Report (CLE June 5, 2013 for approval)

OUTLINE OF ISSUE

Agenda Title: **GFC Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies Final Report for Approval**

Motion: THAT the GFC Committee on the Learning Environment (CLE) approve the final Report of the GFC CLE Subcommittee on Attributes and Competencies, as submitted by the Subcommittee's Co-Chairs and as set forth in Attachment 1.

Item

Action Requested	☒Approval ☐Recommendation ☐Discussion/Advice ☐Information
Proposed by	Dustin Chelen, Member, GFC Committee on the Learning Environment (CLE) and Vice-President (Academic), Students' Union; Colin More, Member, GFC Committee on the Learning Environment (CLE) and Vice-President (Academic), Graduate Students' Association; Steven Dew, Member, Teaching, Learning and Technology (TLAT) Council and Associate Dean (Research and Planning), Faculty of Engineering
Presenters	Dustin Chelen, Co-Chair, GFC Committee on the Learning Environment Subcommittee on Attributes and Competencies; Steven Dew, Co-Chair, GFC Committee on the Learning Environment Subcommittee on Attributes and Competencies
Subject	Final Report of the GFC Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies (for approval)

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	To recommend to the Office of the Provost next steps in the adoption of student attributes attained upon graduation from the University of Alberta. This subcommittee, as *per* its Terms of Reference, has reviewed literature, consulted widely, determined common themes for attributes, and provided recommendations for possible models for implementation.
The Impact of the Proposal is	See 'Purpose'.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	Upon final approval.
Estimated Cost	N/A
Sources of Funding	N/A
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	*Dare to Discover* Values (1 – 4): "1. Excellence in teaching that promotes learning, outstanding research and creative activity that fuel discovery and advance knowledge, and enlightened service that builds citizenship; 2. The centrality of our students and our responsibility to provide an intellectually superior educational environment; 3. Integrity, fairness, and principles of ethical conduct built on the foundation of academic freedom, open inquiry, and the pursuit of truth; 4. A diverse, yet inclusive, dynamic collegial community that welcomes change and seizes opportunity with passion and creativity." *Dare to Deliver, 2011-2015*: "Attributes and Competencies Upon

	Graduation: Articulating and supporting the development of core sets of skills, attributes and values to be incorporated into graduate and undergraduate programs, while recognizing that each Faculty will best decide how to move in this direction, which could include reviewing and updating the curriculum."
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	1. **The *Post-Secondary Learning Act* (*PSLA*)**, Section 26(1), gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs." GFC has thus established a Committee on the Learning Environment (CLE). 2. **GFC Committee on the Learning Environment (CLE) Terms of Reference**: Section 3 (*Mandate of the Committee*): "The Committee on the Learning Environment is a standing committee of the General Faculties Council that promotes an optimal learning environment in alignment with guiding documents of the University of Alberta. The Committee on the Learning Environment is responsible for making recommendations concerning policy matters and action matters with respect to the following: a) To review and monitor the implementation of the University Academic Plan with regard to teaching and learning. b) To review and, as necessary, recommend to the GFC Academic Planning Committee and GFC Executive Committee as relates to the development and implementation of policies on teaching, learning, teaching evaluation, and recognition for teaching that promote the University Academic Plan. […] d) To nurture the development of innovative and creative teaching practices. e) To encourage the sharing and discussion of evidence about effective teaching and learning. f) To promote critical reflection on the impact of broad societal changes in teaching and learning. g) To promote projects with relevant internal and external bodies that offer unique teaching and learning opportunities that would benefit the university community. h) To consider any matter deemed by the GFC Committee on the Learning Environment to be within the purview of its general responsibility. Notwithstanding anything to the contrary in the terms of reference above, the General Faculties Council has delegated to the Committee on the Learning Environment the following powers and authority: To recommend to the GFC Academic Planning Committee and to the GFC Executive Committee broad policy directions for excellence in teaching and learning."

Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	Graduate Students' Association Council (discussion) – September 10, 2012; GFC Committee on the Learning Environment Subcommittee on

	Attributes and Competencies (discussion) – October 22, 2012; Students' Union Council (discussion) – October 23, 2012; GFC Committee on the Learning Environment (discussion) – December 5, 2012; Graduate Students' Association Council (update from the GSA Vice-President (Academic), Nathan Andrews) – January 14, 2013; GFC Committee on the Learning Environment Subcommittee on Attributes and Competencies (discussion) – January 31, 2013; GFC Committee on the Learning Environment Subcommittee on Attributes and Competencies (finalization of the report) – March 8, 2013; GFC Committee on the Learning Environment/Teaching, Learning and Technology Council Joint Session (April 3, 2013) – for discussion; GFC Committee on the Learning Environment (May 1, 2013) – for discussion
Approval Route (Governance) (including meeting dates)	GFC Committee on the Learning Environment (June 5, 2013) – for final approval (of the Final Report of the GFC Committee on the Learning Environment Subcommittee on Attributes and Competencies)
Final Approver	GFC Committee on the Learning Environment

Attachments (each to be numbered 1 - <>):

1. Attachment 1 (pages 1 – 22): GFC Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies Final Report Entitled "Graduate Attributes at the University of Alberta"

Prepared by: Dustin Chelen, Vice-President (Academic), Students' Union (and Member, GFC Committee on the Learning Environment (CLE)), vp.academic@su.ualberta.ca

Graduate Attributes at the University of Alberta

A report of the Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies

Submitted to the June 5, 2013 meeting of CLE

DRAFT

Subcommittee Co-Chairs:
Emerson Csorba and Dustin Chelen, VPs (Academic), Students' Union
Nima Yousefi, Nathan Andrews and Colin More, VPs (Academic), Graduate Students' Association
Dr. Steven Dew, Faculty of Engineering

Introduction

Student attributes (used interchangeably with graduate attributes in this document) generally describe the qualities, values and dispositions that students have developed by the time they have completed their university degree program. While not dissociated from disciplinary knowledge, they are fostered in each student regardless of field of study. Student attributes are broader than (but include) skills or technical competencies and are integrated throughout a higher education experience. This understanding helps us to distinguish attributes from disciplinary skills, emphasizes cross-disciplinary commonalities and applies to both graduate and undergraduate students. Prior to engaging in the topic, it is necessary to establish a common definition for student attributes as a means to avoid ambiguous terminology and to encourage productive discourse from all members of the University community. In addition to defining student attributes is also a need to define how and who should assess whether students acquire these qualities through their university program.

Environmental Scan

Although there is no standard definition, generic attributes can be broadly defined as the qualities that assist individuals' ability to succeed in and contribute to society in general and the working world. According to Bowden et al.,

> Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include, but go beyond, the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents of social good in an unknown future (cited in Atlay 2006, p. 212).

Depending on the institution's philosophy and values (e.g. citizenship- or society-centered values vs. work- and employability-centered concerns), different competencies can be espoused. They comprise learning content that are referred to as 'qualities', 'skills', 'competencies', 'understandings', 'attitudes', 'dispositions', 'values' and so on. Regardless of how it is referred to, having a description of graduate attributes (GAs) is one of the key ways through which universities have sought to articulate the outcomes of higher education (Barrie 2006).

In the current climate, in which universities seek to define their unique placement within the provincial, national and international education sector, and in which

governments, taxpayers and students seek greater accountability for investments in post-secondary education, GAs are becoming increasingly important to the strategic planning processes for research-intensive universities worldwide. From the Tuning Project in the European Union to quality assurance agencies in the United Kingdom and the Tertiary Education Quality and Standards Agency (TEQSA) in Australia, governments are asserting greater control and demanding an outcomes-based approach to post-secondary education standards (Barrie 2004).

The shift toward greater accountability of student development is driven not only by governments, but also by industry and by students themselves. Research universities are now being pressed to go beyond equipping students with knowledge and produce adults that are culturally aware, adaptive to change, and globally competitive. Within this context and regardless of government mandate, the development of GAs has clear strategic importance to universities who aim to not only educate contributing members of society, but also foster their holistic intellectual development.

The discussion of student attributes began in Australia during the early 1990s, using the term "Personal Transferable Skills". As a condition of funding, Australian universities now must include a statement on generic outcomes of education in their operational plans. In addition, TEQSA's initial audit recommendations of major universities have included considerable focus on student attributes (Burgess et al. 2012; Cooper et al. 2012).

Yet the aforementioned factors influencing the shift toward student attributes – massification of post-secondary education, increased investment accountability, and the development of the knowledge economy – are not isolated to universities in Australia. Certain Canadian accreditation agencies have already begun shifting towards an outcome-based approach and, while the creation of a provincial quality assurance agency is not a certainty, projects in other jurisdictions indicate a prevailing trend in this direction (Accreditation Board 2011; Liaison Committee 2012). In fact, the Ontario Council of Academic Vice Presidents created a report in 2005 that explicitly outlined expectations for undergraduate degree program graduates within its public post-secondary education system to monitor the effectiveness of instruction (Working Group on University Undergraduate Degree Level Expectations 2005).

For a better outcome, Anderson (2004) argues that among the responsibilities of academic and administrative university leaders is to be able to collect information about student performance indicators in order to "facilitate the development of conceptual frameworks and paradigms that are both discipline specific and that cut across academic areas" (p.19). Various stakeholders could be identified in working

with graduate attributes (GAs), but on a dichotomous paradigm: there is the course instructor on the one hand, and the students on the other hand. Models adopted by various universities differ substantially because of the uniqueness of institutions' mission, purpose and characteristics. However, when we take in consideration instructor/student feedback and input that is longitudinal and formative in nature, the model can be adapted easily to various institutions.

Many examples exist from institutions that have acted in haste to adopt student attributes as a response to quality assurance initiatives; the final product being poorly-conceived attributes that do not reflect the entirety of the institution's academic programs and struggle to achieve consensus and collaboration among faculty for comprehensive implementation. Successful implementation and articulation of attributes stem from an organic, collaborative development process that engages the university community in an introspective discussion. This is the approach that the Subcommittee on Attributes and Competencies has been committed to, and should continue to ground the process in the future.

The implementation stage of student attribute introduction is particularly crucial to the project's success. Significant comprehension and proper development of attributes depend critically on the explicit integration of attributes into the university experience. Once chosen, student attributes require widespread communication – through instructors, student leaders and administrators – and support for curriculum updates and instructional incorporation in order to permeate the university experience. Leaving student attributes as an implicit directive has been found to be ineffective.

A commitment to adopting this report's attributes will allow us to define the unique nature of a degree from the University of Alberta, a research-intensive institution. By elucidating what makes a U of A graduate unique, and integrating those attributes throughout each program, we are contributing to the creation of identifiable, cross-disciplinary links between our students that will serve as a distinguishing feature of our institution. The University of Alberta will be seen as a Canadian leader in preparing its students for an unknown future.

University of Alberta Context

In 2009, the Centre for Teaching and Learning provided a discussion paper on student attributes to the Office of the Provost and Vice-President (Academic) and the writers of the Academic Plan. This document was circulated for wider discussion, and with substantial support from the University Community, the development of student attributes was decided to be a key objective for the institution.

The University of Alberta's Academic Plan, *Dare to Deliver* 2011-2015, commits to "Articulating and supporting the development of core sets of skills, attributes, and values to be incorporated into graduate and undergraduate programs, while recognizing that each Faculty will best decide how to move in this direction, which could include reviewing and updating the curriculum." In October 2011, the Committee on the Learning Environment struck the Subcommittee on Attributes and Competencies. Its mandate is to review literature, define terms, consult, determine commonalities, and develop a model of implementation surrounding student attributes. (See Appendix A for the CLE-approved Terms of Reference) The subcommittee consists of a diverse group of representatives, including undergraduate and graduate students, administrators, and staff from the Faculties of Arts, Science, Education, Engineering, Medicine and Dentistry, Graduate Studies and Research, as well as Campus Saint-Jean and Augustana Campus.

Since its inception, the Subcommittee has held numerous meetings. It reviewed the literature and research on student attributes so as to better orient itself. Practices at other institutions were surveyed, including Ontario universities and the University of Sydney. Over 5000 undergraduate students provided their feedback on what attributes they developed during the course of their University of Alberta education. Students, both graduate and undergraduate, were consulted on a draft list of attributes via the respective councils of the SU and the GSA. The three co-chairs synthesized this data and presented it to the subcommittee for further discussion. Thus, the list of attributes and the suggested implementation models that follows is the result of a number of meetings and conversations. The aim was to ensure that attributes accurately reflect the needs and aspirations of students, the current academic programs of faculties, and the requirements imposed by accrediting bodies.

Attributes

Imparting advanced knowledge is inherently a core objective of a university education. However, there are additional outcomes of the educational enterprise that form the foundation of success for both students and society as a whole. The Subcommittee believes the list below reflects the values of the University of Alberta and captures the essence of the attributes and competencies expected of a student at the time of graduation. These qualities are interconnected and are developed in a variety of ways through the student experience on campus, paving the way for individual excellence and leadership. Seven attributes have been identified, each with four sub-attributes that have widespread applicability. While the list could certainly be lengthened, the Subcommittee felt these represented the core, essential elements required. These attributes are itemized on the next page.

It is understood that this list must be taken in the context of the individual program, the level of the degree (undergraduate or postgraduate), and the community and stakeholder expectations associated with it. Development of these characteristics should occur both through formal coursework as well as co-curricular and extra-curricular activities.

Possible Models of Implementation

The Subcommittee felt it had good consensus on the list of attributes. However, it recognized that approaches to implementing this list in some formal manner would vary by faculty and by program. Aspects of implementation range from program-level analysis and design to ensure suitable development opportunities exist, evaluation of student performance against these attributes, tools for students and instructors to reflect these attributes, and University-wide support for their role as part of our education. Potential users of such evaluation could be current and prospective students, faculties, university administrators, employers, accreditation bodies and government. Each of these stakeholders has slightly different needs. Ideally, the implementation of graduate attributes would add value to students' experience at the U of A, improve our programs, provide performance reassurance to government and accreditation bodies, yet not overload already very busy faculty members and administrative structures. Most importantly, implementation of student attributes should continue to be in the control of those who affect their development most: teaching staff and program planners. As acknowledged in the academic plan it is up to Faculties to determine the best route for implementation, but to provide some source for inspiration we have included a menu of possible modes in Appendix D.

List of Attributes and Sub-Attributes

1. **Ethical responsibility**
    a. Global citizenship
    b. Community engagement
    c. Social and environmental awareness
    d. Professionalism
2. **Scholarship**
    a. Knowledge breadth and depth
    b. Interdisciplinarity
    c. Life-long learning
    d. Investigation
3. **Critical thinking**
    a. Analytic and synthetic reasoning
    b. Interpretive proficiency
    c. Intellectual curiosity
    d. Information literacy
4. **Communication**
    a. Writing skills
    b. Oral Skills
    c. Visual communication
    d. Multilingualism
5. **Collaboration**
    a. Openness to diversity
    b. Interpersonal skills
    c. Adaptability and compromise
    d. Individual contribution
6. **Creativity**
    a. Imagination
    b. Innovation
    c. Divergent thinking
    d. Artistic sensibility
7. **Confidence**
    a. Leadership and empowerment
    b. Independence
    c. Initiative
    d. Resilience

Recommendations

Faculties, Departments, Deans, Chairs, instructional staff, and students should be engaged in the processes by which the attributes are integrated into graduate and undergraduate programs at the University of Alberta. However, given the turnover among the co-chairs of this committee, they wanted to propose the following centrally-supported actions in conclusion of this two-year reporting process. They are based on the principles supported within graduate student attribute literature: affirm, support, coordinate, and communicate.

- Include a listing of the student attributes and sub-attributes in an overarching University document. A potential revision to GFC Policy 111 may be the appropriate place to affirm the University's support of the above attributes.
- Appoint a Provost's Fellow to continue the dialogue on attributes in student programs, support Faculty in determining implementation methods, and provide faculty members with information and tools to integrate outcome or attribute-based teaching methods.
- Create a University-wide website in collaboration with CTL and University Relations on student attributes that will provide information, resources, and a channel of communication for best practices for faculty, staff, students, and other key stakeholders.
- Develop policy by which instructors list which attributes are fostered in their courses on syllabi, akin to and integrated with the listing of learning objectives in section 23.4 (2) a. of the Calendar.
- Survey students during the course of their programs on measures and personal perspectives on achievement of attributes. This information can inform a Department or Faculty of the strengths and weaknesses in their programs.
- Recognize instructors, departments, and faculties that excel at the fostering of attributes. This demonstrates to students the value of their degree and the interest of the university in the student experience.

References

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Working Group on University Undergraduate Degree Level Expectations. *Ontario Council of Academic Vice Presidents (OCAV): Guidelines for University Undergraduate Degree Level Expectations*. 2005.

Appendix A: Subcommittee on Attributes and Competencies Terms of Reference

1. Committee Mandate:
Following the approval of the University of Alberta's 2011-2015 Academic Plan entitled *Dare to Deliver*, graduate attributes have become a subject of thoughtful discussion across campus. On April 7 2011, the Committee on the Learning Environment Subcommittee on Attributes and Competencies was struck at a joint CLE-TLAT meeting. The committee will work in accordance to the statement pertaining to graduate attributes in the Academic Plan:

"*Attributes and Competencies Upon Graduation: Articulating and supporting the development of core sets of skills, attributes and values to be incorporated into graduate and undergraduate programs, while recognizing that each Faculty will best decide how to move in this direction, which could include reviewing and updating the curriculum*."

2. Committee Roles:

The subcommittee will play numerous roles:

- Engage in a review of graduate attribute literature
- Provide definitions to key terminology in the graduate attributes process in order to clarify committee discussions and consultations
- Consult widely across campus in order to learn about the distinct character of University of Alberta students
- Select several themes that are common to the graduate attributes described by members of different faculties
- Develop a model for the implementation of graduate attributes at the University of Alberta
- Report to the Committee on the Learning Environment on a monthly basis

3. Committee Membership:

The committee membership shall consist of a diverse group of representatives from across the Academy.
- Vice-President Academic, Students' Union – Co-chair: Emerson Csorba (2011-12), Dustin Chelen (2012-14)
- Vice-President Academic, Graduate Students' Association – Co-chair: Nima Yousefi Moghaddam (2011-12), Nathan Andrews (2012-13), Colin More (2013-14)
- Academic Staff representative – Co-chair: Dr. Steven Dew

- One (1) undergraduate student at-large representative: Dustin Chelen (2011-12)
- One (1) graduate student at-large representative: Ashlyn Bernier
- One (1) CLE graduate student representative: Anne McIntosh
- One (1) CLE undergraduate student representative: Erendira Cervantes-Altamirano
- One (1) representative from the Faculty of Arts: Dr. Daphne Read (2011-12), Dr. Mickey Adolphson (2012-2013)
- One (1) representative from the Faculty of Science: Dr. Arturo Sanchez
- One (1) representative from the Campus Saint-Jean: Dr. Donald Ipperciel
- One (1) representative from the Augustana Campus: Dr. Paula Marentette
- One (1) representative from the Faculty of Medicine and Dentistry: Dr. Fraser Brenneis
- One (1) representative from the Faculty of Education: Dr. Genevieve Gauthier
- One (1) representative from the Faculty of Graduate Studies and Research: Dr. Renee Polziehn

In addition to the members serving on the committee, numerous university stakeholders will be consistently invited to committee meetings so that a wide range of perspectives are heard and considered throughout the committee's proceedings.

4. Committee Meetings:

The committee will meet on a biweekly basis, with thorough stakeholder consultations taking place in between meetings when necessary.

Appendix B: Example of Faculty-Specific Interpretation of Graduate Attributes

Below is a table developed by Campus St.-Jean to provide a Faculty-specific context of how these attributes and sub-attributes might be interpreted. Given the many cultures within a large and diverse institution there will be a need to define a specific interpretation of the sub-attributes. The interpretation provided here is meant to serve as an example and it is not intended to be prescriptive.

Attributes	Sub-attributes	Interpretation
Ethical responsibility		Can adopt the perspective of moral principles rather than self-interest
	Global citizenship	Can consider issues from a global perspective
	Community engagement	Can actively contribute to improving communities
	Social and environmental awareness	Can adopt the perspective of the public good and take into consideration our embeddedness within society and nature
	Professionalism	Is eager to meet the level of expertise and deontological expectations of her profession
Scholarship		Can rely on a body of established knowledge to guide her action
	Knowledge breadth and depth	Can make use of a broad range of knowledge while displaying mastery in specific areas
	Interdisciplinarity	Can integrate knowledge drawn from more than one

		academic discipline
	Life-long learning	Is willing to engage in autonomous self-teaching in or outside the classroom
	Investigation	Can effectively conduct research with the help of established methods and tools
Critical thinking		Can contextually assess given information (incl. self-related) through reflection and debate, taking nothing for granted
	Analytic and synthetic reasoning	Can gather various detailed information and organize it for specific purposes
	Interpretive proficiency	Can convert data into meaningful information and knowledge
	Intellectual curiosity	Is eager to learn beyond what is readily available (in classrooms or in common knowledge)
	Information literacy	Can effectively identify and assess information within its broader societal contexts, including knowledge-dependent contexts requiring scientific, digital or technological literacy
Communication		Can exchange thoughts, feelings and information effectively in various situations

	Writing skills	Can write effectively in multiple formats
	Oral skills	Can speak effectively in various formal and informal settings
	Visual communication	Can convey ideas effectively through visual aid
	Multilingualism	Can communicate effectively in more than one language
Collaboration		Can complete tasks effectively by working jointly with others who share a common goal
	Openness to diversity	Can engage with people of different race, religion, cultures, classes, sex orientation and appearance
	Interpersonal skills	Can demonstrate skills necessary for effective interaction and communication (incl. empathy, active listening, respect)
	Adaptability and compromise	Can change or suspend a personal belief in order to further the realization of a common goal or to adjust to new circumstances
	Individual contribution	Can take an active role in collaborative work

Creativity		Can produce something new and valuable (incl. ideas, works or products)
	Imagination	Can conjure up new ideas and representations in a productive manner
	Innovation	Can devise novel and better ways of doing things through knowledge (scientific, technological, methodological)
	Divergent thinking	Can explore new avenues in a non-conformist and risk-taking fashion
	Artistic sensibility	Can be compelled by artistic work and, ideally, partake in expressive artistic production
Confidence		Can act and think decisively
	Leadership and empowerment	Can be the driving force behind a course of action
	Independence	Can work and think productively with no or little supervision
	Initiative	Can initiate a course of action without prompting
	Resilience	Can follow through on a course of action over time

Appendix C : Faculty of Engineering Model

As part of its procedures, the Canadian Engineering Accreditation Board (CEAB) has developed a set of 12 Graduate Attributes (GAs) for which it requires quantitative metrics of student performance. These are quite analogous to the 7 GAs developed by the CLE Subcommittee. These GAs are used to assess the effectiveness of the engineering programs being accredited. While likely more detailed and rigorous than is appropriate in many UofA contexts, this does serve as an example of a Program-responsible implementation model for GA assessment. The UofA Faculty of Engineering approach to the CEAB requirements is briefly outlined below.

Programs in the Faculty of Engineering are relatively tightly specified. For each course within its programs, the Faculty has assessed alignment with each of the CEAB Gas. A level (0-3) was assigned corresponding to the degree of development of the attribute within the course. From this, a map (see Figure C1) can be created showing the development across the curriculum. This serves as a useful GA development planning tool as well as helps identify courses where GA attribute performance can be measured. A philosophy of sampling has been adopted, and measurements are taken in only a small subset of courses.

		Common or Program Core	Knowledge Base	Problem Analysis	Investigation	Design	Engineering Tools	Indiv. & Team Work	Communication Skills	Professionalism	Impact on Society	Ethics & Equity	Economics & Mgt	Life-long Learning
Course	**Title**	**Y/N**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CHEM 103	Introductory University Chemistry I	Y	1		1									
CSOPT 100	Complementary Studies Elective	Y							1					
ENGG 100	Orientation Engineering Prof I	Y					1		1	3		2		1
ENGG 130	Engineering Mechanics	Y	2	2										
MATH 100	Calculus I	Y	3	2	1		2							
PHYS 130	Wave Motion, Optics, and Sound	Y	3	1	2			1						
CHEM 105	Introductory University Chemistry II	Y	2		2									
ENCMP 100	Computer Programming Engineers	Y	1	1	1	1	2	1	1	1	1			1
ENGG 101	Orientation Engineer Prof II	Y							1	3	2			1
EN PH 131	Mechanics	Y	1	2	1									
MATH 101	Calculus II	Y	3	2										
MATH 102	Applied Linear Algebra	Y	3	2	1		2							
MATH 209	Calculus III	Y	3	2										
MATH 201	Differential Equations	Y	3	2										
ENGL ELEC	English	Y*							3					1
ITS ELEC	Impact of Technology on Society	Y							1		3			2
STAT 235	Introductory Statistics for Engineers	Y	3	2	2		2							
MATH 300	Advanced Boundary Value Problems I	Y	3	2										
ENGM 310	Engineering Economics	Y				1	1				1		3	
ENGG 400	Practice Engineering Profes	Y								3	2	2	2	2

MEC E 200	Introduction to Mechanical Engineering	Y					1	2		2		2		1
MEC E 230	Introduction to Thermoscience	Y	1	2										
MEC E 250	Engineering Mechanics II	Y	1	2										
MEC E 260	Mechanical Design I	Y	1	2	1	3	2	2	1	1			1	2
MEC E 265	Engineering Graphics and CAD	Y	1	1		1	2	2	2	1	1			1
MEC E 300	Mechanical Measurements	Y	1	1	1		1			1				
MEC E 301	Mechanical Engineering Laboratory I	Y	2		3	2	3	2	3					
MEC E 330	Fluid Mechanics	Y	2	2	1		1							
MEC E 340	Applied Thermodynamics	Y	2	3							1			
MEC E 360	Mechanical Design II	Y	1	3		3	2	3	2					1
MEC E 362	Mechanics of Machines	Y	2	3	1		2							
MEC E 370	Heat Transfer	Y	3	3		1								
MEC E 380	Advanced Strength of Material I	Y	2	2										
MEC E 390	Numerical Methods of Mech. Engineers	Y	1	1			3							
MEC E 403	Mechanical Engineering Laboratory II	Y		2	3		2	2	2					
MEC E 451	Vibration and Sound	Y	3	2			2							
MEC E 460	Design Project	Y	1	3	3	3	3	3	3	2	2	2	2	2
MEC E 463	Thermo-Fluids Systems Design	Y	3	3		3	2	3	1	1	1		1	1
MEC E 364	Manufacturing Processes	N	1	1	2	1	2			1	1			
MEC E 415	Busting Myths with Analysis	N	2	3			1							
MEC E 420	Feedback Contr Dsgn of Dynam Systems	N	3	3	3	2	3	1						
MEC E 430	Fluid Mechanics II	N	3	3			2							
MEC E 443	Energy Conversion	N	3	3			2							
MEC E 464	Design For Manufacture	N	2	1	3	2	3	2						
MEC E 466	Building Systems Design	N	3	3	1	3	2	2						
MEC E 468	Numer Sim in Mech Engg Design	N		3	1	1	3							
MEC E 480	Advanced Strengths of Materials II	N	3	2										
MEC E 537	Aerodynamics	N	3	3		1	2							
MEC E 539	Applied Computational Fluid Dynamics	N		3			3							
MEC E 541	Combustion Engines	N	3	2										
MEC E 553	Acoustics and Noise Control	N	3	2										
MEC E 563	Finite Element Method for Mech Engg	N		3	2	3								
MEC E 564	Design and Simulation of MEMS	N	3	2		2	1							
MEC E 569	Mech and Dsgn of Composite Materials	N	3	2		2								
MEC E 585	Biomed Mod of Human Tissue and Sys	N	3	3			1							

Figure C1: Map of CEAB graduate attribute development in the Mechanical Engineering program. The values (0-3) represent the degree of development of that attribute within each course.

As with the approach developed by the CLE Subcommittee, Engineering has developed a list of subattributes for each CEAB attribute. These are indicated below in Table C1. For each subattribute a performance indicator has been developed. These indicators serve as proxies of a direct measure of the actual attribute. If measurements of the indicators are providing values that meet assigned targets, the Faculty can be confident that its students are acquiring the corresponding GA.

Table C1: Subattributes used to elaborate each graduate attribute. While most are common across all Engineering programs, those in italics are unique to Mechanical Engineering.

GA	Description	Subattribute
3.1.1	Knowledge Base	Mathematics, Chemistry, Physics, Engineering fundamentals, *Thermal sciences, Solid mechanics, Fluid mechanics, Mechanics, Dynamics and control*
3.1.2	Problem Analysis	Understands the problem, Assembles knowledge, Applies models, Evaluates result
3.1.3	Investigation	Recognizes unknowns, Measures data, Analyzes data, Reaches conclusions
3.1.4	Design	Requirements, Creativity, Analysis, Iteration, Assessment
3.1.5	Engineering Tools	Computation, System description, System modeling, Analysis, Measurement
3.1.6	Indiv. & Team Work	Time management, Team work (understands roles, meets responsibilities, actively contributes, respects others, leadership)
3.1.7	Communication	Organized message, Writing, Reading, Speaking, Use of graphics
3.1.8	Professionalism	Legal responsibilities, Licensure requirements, Safety, Due diligence
3.1.9	Impact on Society	Aware of impacts on society, Impact assessment, Sustainable design, Assessment of the impacts
3.1.10	Ethics & Equity	Aware of ethical issues, Makes ethical choices, Aware of equity issues, Ethics in writing, Appreciation of socio-economic context
3.1.11	Economics & Project	Engineering economics, Economic assessment, Project management
3.1.12	Lifelong Learning	Curious, Able to assess needs, Resourceful, Discriminating

For each indicator, a specific task or activity within a specific course was identified for measurement of student performance. Then, a four level rubric was developed to aid in the acquisition of objective, reproducible quantitative data that can be compared against predetermined targets and year-over-year trends. The fraction of students meeting levels 3 or 4 of the rubric is used as the primary measure of program performance against that subattribute.

Typically, the measurement will involve a targeted final exam question or capstone design report section in a final year course. In general, course grades are not used as they aggregate too many aspects to be specific. As well, we have generally tried to include a self-assessment indicator (the measure is a question within a survey taken as part of a compulsory course) for each subattribute to corroborate this outcome, although we recognize that self-assessment is as likely to reflect confidence and attitudes as it is competency.

			Rubric			
Subattr.	**Indicator**	**Measure**	**Unsatisfactory 1**	**Developing 2**	**Satisfactory 3**	**Excellent 4**
Understand the problem	Able to state the essential problem to address	MEC E 370 final exam question	Unable to articulate the essential problem	Able to partially articulate problem but missing key details	Able to articulate the problem to be solved	Able to articulate problem and identify constraints on the range of solution
	Self-assessment of ability to understand the problem	ENGG 400 survey "How would you rate your abilities to identify complex engineering problems?"	"Very limited"	"Developing"	"Satisfactory"	"Good"
Assemble knowledge	Assembles the relevant models and formulae	MEC E 370 final exam question	Unable to identify key principles or models needed	Identifies some of the relevant models and formulae, but missing key elements	Able to assemble the necessary formulae and models	Able to derive necessary formulae from first principles

Figure C2: Example of the indicators and rubrics developed for one of the CEAB GAs (Problem Analysis)

Data for each subattribute is collected according to a multi-year schedule for analysis. The subattributes related to a single attribute (Communication Skills) is presented in Figure C3. The nominal target is that 80% of students reach levels 3 or 4.

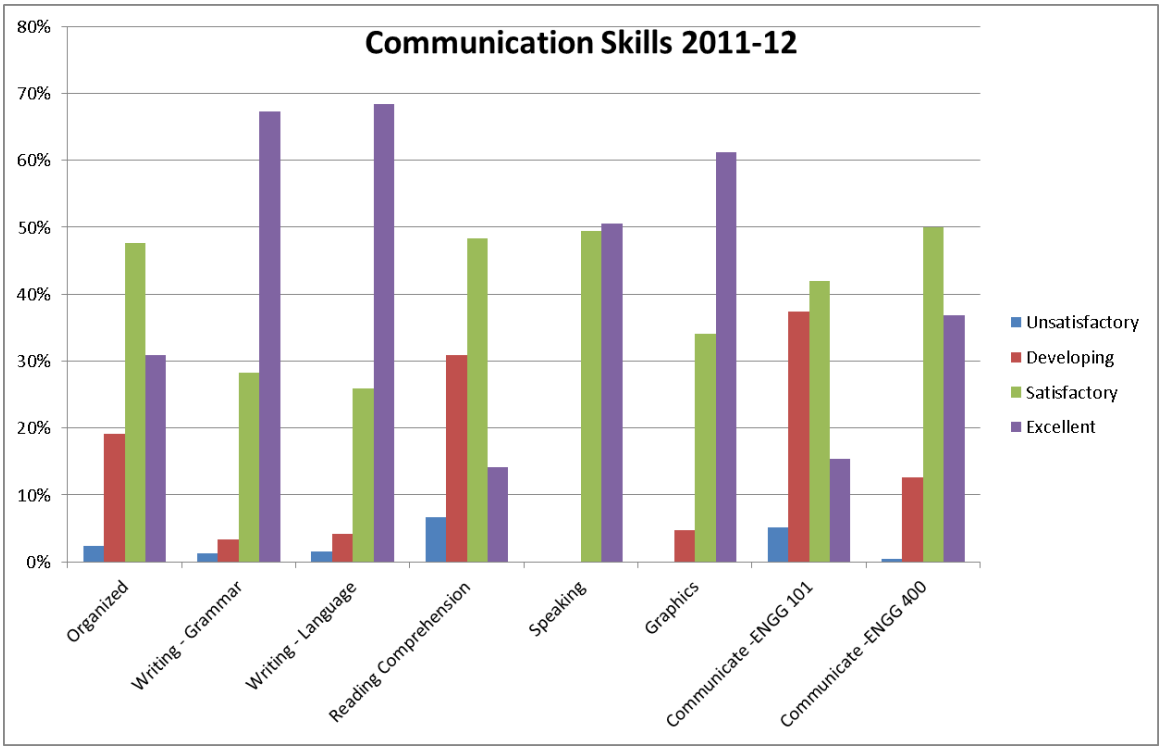

Figure C3: Example data for all the subattributes related to one GA (Communication Skills).

Appendix D: Possible Models of Implementation

Student-responsible model[1]

- Certain activities (courses, workshops, clubs, events, work experience, etc.) could have pre-determined credits assigned to them. Organizers of such activities can provide documentation of student participation as needed. Credits could come in different 'flavours' reflecting the different attributes to be developed.
- Other activities can be retroactively assessed by a designated office to determine credit values based on student-supplied documentation.
- Students must accumulate the required number of credits in various categories (likely one per attribute) to achieve success against the attributes list. Compliance could be either a mandatory requirement for graduation or a certificate of recognition.
    - Target levels should be set/customized by Faculties in accordance to University norms. This allows programs to provide a context and a standard appropriate to the discipline.
- A student information system could be developed for students to track their progress. Faculties/departments could also access this information (in aggregate) to understand gaps in their programs and needs for targeted activities. Accredited programs may require documentation of their performance/compliance.
- Student portfolios could be accumulated to provide auditable content (eg. for accreditation or government review) and concrete examples (e.g. for future job interviews)

[1] In Ontario, the strategy Brock University has taken in dealing with the implementation of attributes and competencies (which they refer to as 'Experience Plus') is largely student-driven. There is an office that handles these issues and students are required to individually complete an online portfolio after which they will send proof (such as certificates, volunteering hours, professional development training, etc) to this office for a transcript to be completed. This transcript has the official University seal and students are allowed to use it for different purposes, including finding new jobs or entering into advanced studies. Although this is open to all students, only those who took the initiative to actually complete the online profile ended up with an *Experience Plus Transcript* - and the details on these transcripts vary from student to student.

Program-responsible model

- At a Faculty level, each Faculty or department could interpret the graduate attributes as relevant to their teaching mission. For an example, see Appendix B.
- At a program level, each Faculty could review their programs for development of student attributes.
- At a program level, Faculties or Departments could then structure or supplement the structure of programs to ensure the development of student attributes, so that students achieve the attributes by design of the program, rather than by student initiative. For an example, see Appendix C.
- Student achievement could be demonstrated by instructor assessment of targeted activities within courses or other formal activities. Students would get a course grade as always, but may also be assessed against more targeted criteria with specific indicators.
    - From a quality control perspective (eg. the perspective of government and/or accreditors), assessment may be attributed only to the program, not necessarily to the student. Measurements could even be done through sampling with students kept anonymous.
- For consistency, standardized tracking and documentation could be developed at the University level. Reporting on some interval basis (for instance, in every five years) could be done to the Provost and Vice President (Academic) by each Faculty.

Hybrid model

- The Faculty takes ownership of most aspects per the Program-responsible model, but some aspects (especially those tied to co-curricular and extra-curricular activities) are tasked to the student to demonstrate with some designated body or bodies authorized to review and approve student documentation.
    - The breakdown of who is doing what (i.e. the responsibilities above) is managed at the Faculty or department level.
- Every student must be assessed against every attribute (by the Faculty or at the initiative of the student) in order to generate a certificate or complete a graduation requirement.

Assessment - Pros & Cons of Each Model

Both Student- and Program-responsible models have pros and cons. The Student-responsible model is very easy to implement (incremental Faculty workload is minimal but resources are required for assessing student activities) and is robust in the face of very diverse and flexible programs. However, responsibility for ensuring outcomes are met (held by students) is separated from those with the authority and resources (the faculties) to create opportunities to demonstrably do so. This separation will limit the effectiveness of the initiative to improve these outcomes. It also does not fit well with the accreditation needs of many professional faculties. It does, however, create a very clear incentive for the student to develop themselves (especially if it's mandatory) and may empower them to be responsible for life-long learning. It also provides an additional credential (for example, a co-curricular transcript), which may be valued by potential employers.

The Program-responsible model is better suited for government assessment and/or accreditation since it is focused at the level at which those bodies are concerned. It forces Faculties to think holistically about their programs (rather than about individual courses), which could yield benefits for program enhancement. It can minimize and standardize assessments so they are highly consistent and most suitable for a continuous improvement system. In a program-responsible model, sampling can be employed so not every student need be assessed, nor every attribute examined every year. Assessments can also be highly targeted so precise indications of program shortcomings can be identified to inform remediation efforts. However, this approach has limited engagement of the student and provides no direction for individual improvement. It also fails to provide students with a distinct individual credential beyond the standard UofA degree (which may become more significant to an employer).

The Hybrid model delivers the most benefits, particularly if individual Faculties are free to set the balance of how much will be at the student level and how much will be the Program's responsibility. It also has the most potential to meet the distinctive needs of students, educators, potential employers, government, and accreditation bodies. However, it is also the most work, requiring the substantial involvement of both Faculty and student.