Oregon TECH

Recommendations of the Goal IV Team: General Education Reform Ad-Hoc Committee (GERAC)

October 5, 2018

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Executive Summary

The General Education Task Force (GERTF) was formed in Spring 2013 to conduct a comprehensive review of university general education requirements and develop recommendations to improve the general education program. The report introduced a new Essential Studies model and philosophy for general education at Oregon Tech. The present report considers the recommendations from GERTF, considers modified options to those recommendations, and sets forth a plan and timeline for implementation.

This report considers six options for modifying the original Essential Studies model proposed by GERTF. The workgroup was considerate of the essence and rationale of the original Essential Studies model, including Essential Studies Learning Outcomes (ESLOs), programmatic integration, vertical integration, the Essential Studies Synthesis Experience, flexibility, and subject matter expertise. The result of the discussions led to several considerations for changes to the model from continuing to do what is currently being done with Essential Studies to full change and implementation of the proposed Essential Studies model.

As a result of those discussions, the workgroup recommends that Option 2 be adopted during Fall 2018 and implemented by Fall 2020 with work towards this end beginning Winter term 2019. Also, the workgroup recommends that investigation into the possibility of implementation of Option 3 begin during Winter 2019. The workgroup was mindful about budget in its deliberation and believes finances, academic quality and improved student learning should be driving decision-making factors in an administrative commitment to general education changes.

Introduction

The General Education Task Force (GERTF) was formed in Spring 2013 to conduct a comprehensive review of university general education requirements and develop recommendations to improve the program. The work was inclusive of the voices of faculty across the institution and careful research. The Report of the General Education Review Task Force (See Appendix A) was delivered in Summer 2016. The report introduced a new Essential Studies model and philosophy for general education at Oregon Tech. Although the General Education Advisory Committee (GEAC) reviewed the GERTF report (see Appendix B) the recommendations from GERTF were not immediately implemented as a result of changing university leadership, concerns with new model implementation, and a lack of committee authority for implementation. The present report considers the recommendations from GERTF, considers modified options to those recommendations, and sets forth a plan and timeline for implementation.

Essential Studies Learning Outcomes

The Essential Studies general education model is built on Oregon Tech's six Essential Student Learning Outcomes (ESLOs) which support the institutional mission and core themes. The six ESLO's can be found below and form the pathways for general education requirements in the proposed Essential Studies model.

1. Communication
2. Inquiry and Analysis
3. Ethical Reasoning
4. Teamwork
5. Quantitative Literacy
6. Diverse Perspectives

Ad-Hoc Workgroup

Despite the delay in implementation, work to understand the model and to assess elements of it continued over the past couple of years through the Office of Academic Excellence and the General Education Advisory Council (GEAC). In Spring 2018, Provost Gary Kuleck formed a multi-disciplinary ad-hoc work group to review and refine the Essential Studies general education model and to make recommendations regarding how to clearly and flexibly respond to constraints, opportunities, and concerns raised since the GERTF final report. The ad-hoc work group was comprised of faculty representing multiple university departments and campus locations, as well as representatives from key administrative offices including the following members:

GERAC Co-Chairs

- Dan Peterson, *Communication* (Klamath Falls)
- Wendy Ivie, *Registrar's Office* (Klamath Falls)

GERAC Members

- Brandy Brown, *Online Education* (Klamath Falls)
- Phil Howard, *Computer Systems Engineering Technology* (Klamath Falls)
- Ryan Madden, *Humanities & Social Sciences* (Portland-Metro)
- Rose McClure, *Natural Science* (Klamath Falls)
- Deanne Pandozzi, *The ROCK* (Klamath Falls)
- Randall Paul, *Mathematics* (Klamath Falls)
- Stephanie Pope, *Budget and Planning* (Klamath Falls)
- CJ Riley, *Civil Engineering* (Klamath Falls)
- Matt Schnakenberg, *Communication* (Klamath Falls)
- Rich Carson, *Medical Imaging Technology* (Klamath Falls)
- Steve Addison, *Mechanical & Manufacturing Engineering* (Boeing)
- Hope Corsair, *Electrical Engineering & Renewable Energy Engineering* (Portland-Metro)

The Charge

At the outset of the ad-hoc group's work in summer 2018, Provost Kuleck and Interim Director of the Office of Academic Excellence, Seth Anthony, provided the following charge to the group:

With full attentiveness to the constraints and opportunities facing Oregon Tech, particularly differences between sites, delivery modes, curricula, and student populations, as well as internal and external fiscal, political and enrollment pressures, the ad hoc Working Group on General Education Reform is charged with:

(1) *Producing a refined model for general education reform that draws on the Essential Studies model which clearly and flexibly responds to constraints, opportunities, and concerns raised since the GERTF final report,*
(2) *Developing an implementation plan and timeline that includes both academic and non-academic components and defines responsibilities, and clearly and specifically identifies necessary resources required for implementation, and*
(3) Including within or alongside these products sufficient detail and analysis to offer a persuasive case that this model and plans are implementable and sustainable for Oregon Tech.

Process of Review

In order to refine the model, develop an implementation plan, and designate timelines for action, GERAC was divided into four subgroups. Each group was given a "lens" by which to view the model. The lenses included transferability, budget, student, and academic. The groups were organized with faculty and staff members based upon interest or specialty and considered the following:

Transferability

- Flexibility of the model to accept credits in specific ESLOs.
- Influence of the Essential Studies Synthesis Experience (ESSE) on transfer students.
- Community college and the Admissions Office training on the new curriculum.
- Time to complete transfer evaluations by the Registrar's Office and general education department chairs.
- Legislative issues and requirements.
- Articulation agreements and statewide block articulations.
- Student time to completion.
- Concerns regarding credit by examination and credit for prior learning.
- Current university transfer policy.

Budget

- Faculty and staff workload issues, including new faculty and staff needed for implementation.
- ESSE development, workload, and adjunct issues.
- Influence on Admissions Office, the Registrar's Office and any other offices supporting general education.
- Budget and financial impact scenarios.

Student

- Student time to completion (freshman and transfer).
- Recognition of the importance of general education in the experience of students.
- Influence of the ESSE.
- External marketing, public information, etc. about changes to general education.
- Impact on recruiting and enrollment.
- Credit neutrality of the model, keeping it as credit neutral as possible.

Academic

- Flexibility of the model to accept credits in specific ESLOs.
- Importance of faculty content expertise in general education courses.
- Recognition of the significance of general education by staff, faculty and administration.
- Creation and instruction of the ESSE.
- Influence on programs and their curriculum maps.
- Legislative issues and requirements.
- Influence on current university policies and outcomes.
- Current university and faculty policy.
- Advising considerations.
- Integration of general education and program coursework.

Modification Recommendations

The work of the subgroups and collective workgroup yielded options for modifying the original Essential Studies model. The workgroup was considerate of the essence and rationale of the original Essential Studies model, including the Essential Studies Learning Outcomes (ESLOs), programmatic integration, vertical integration, the Essential Studies Synthesis Experience, flexibility and subject matter expertise. The result of the discussions led to several considerations for changes to the model from continuing to do what is currently being done with Essential Studies to full change and implementation of the proposed Essential Studies model. The options below represent variations discussed by the group and considerations of each option.

Option 1: Status Quo (Not Recommended)

Delay the reform until a full assessment cycle is completed. Oregon Tech would continue to use its current general education model and continue to assess ESLO tagged courses as part of our current assessment model. Development of cross-disciplinary courses that address all six ESLOs would be encouraged. Information would continue to be gathered from these and other sources with a new general education model resulting at the end of the current assessment cycle in 2020-2021.

Considerations

- Provides the opportunity to gather more information.
- Provides time to adjust to new leadership and changes in faculty workload.
- Budget neutral.
- Loss of momentum for general education reform.
- Current general education requirements are not clearly aligned with recently adopted ESLOs

Recommendations

The workgroup does not recommend this option because of the general acceptance of the ESLOs, progress being made toward tagging courses as part of the ESLO model, and programmatic changes already made in consideration of the ESLOs. This option would stall already dwindling momentum toward any necessary general education reform.

Option 2: Essential Studies Learning Outcomes Pathways (Recommended)

Requires a certain number of courses supporting each ESLO pathway (See Figure 1), but does not include vertical integration (foundational, practicing, capstone), program integration (no program integrated practicing) or the ESSE. For further information on vertical and program integration, and the ESSE see Appendix A.

9 Humanities:	Inquiry & Analysis: Humanities	Inquiry & Analysis: Humanities	Ethical Reasoning			
12 Social Science:	Inquiry & Analysis: Social Science	Inquiry & Analysis: Social Science	Inquiry & Analysis: Social Science	Diverse Perspectives: Social Science		
18 Communication:	Speech 111	Writing 121	Writing 122	Speech 221	Communication	Diverse Perspectives: Communication
16 Math/Natural Sciences:	Quantitative Literacy: Statistics	Quantitative Literacy: Finance	Inquiry & Analysis: Natural Sciences	Inquiry & Analysis: Natural Sciences		
= 55 hours						

Figure 1. Example of courses supporting ESLO pathways

Considerations

- General education requirements are intentional, requiring courses that support institutional and programmatic goals.
- Some of the work has already been done by ESLO committees.
- Fewer issues with transfer courses than with other options.
- Accommodates all current institutional curricular designs.
- Ties learning to ESLOs, enhancing the student experience.
- Supports industry-recognized student general education needs.
- ESLOs may not be re-enforced later in upper division courses.
- Possible issues with credit hour neutrality in a few programs.
- Possible issues with transfer credit loss.
- Potential influence on the workload of some general education faculty.
- Course availability by campus or mode.
- Banner transfer database updates.
- DegreeWorks updates.

If proposed model changes are accepted, all current required credits are maintained. All general education courses in the Oregon Tech database will need to be tagged with a new general education designation. Departments must send all courses through the ESLO

committees to determine the appropriate ESLO tag. Double dipping (the ability of one course to satisfy multiple ESLO pathways within general education) will not be approved. Programmatic courses will not need to be tagged by ESLO committees unless they are fulfilling general education requirements. Once all general education courses are reviewed by the ESLO committees, the Registrar's Office will begin the task of assigning all Oregon Tech general education courses and transfer courses with the appropriate attribute/pathway tag in Banner. This labor will require a considerable amount of time and effort from general education faculty and other staff.

The focus on general education pathways will make the model straight forward and easy to communicate for students, faculty, and staff. The simplicity of this approach makes understanding the model straightforward for internal and external audiences.

Recommendations

The workgroup strongly recommends adoption of this option for four reasons. First, the Essential Studies Learning Outcomes Pathways create intentionality in general education outcomes for all programs and locations. Second, this option encourages continuous improvement in the general education at Oregon Tech, which will benefit student learning in an ongoing manner. Third, the option provides greater focus on the importance of general education in all programs. Finally, the option meets industry expectations for the learning Oregon Tech students have that make them unique from other institutions in the state of Oregon.

Option 3: Option 2 with the addition of the ESSE (Recommended with further assessment)

The ESSE should be a cross-disciplinary, project-based course, taken late in the student's experience, bringing together all six ESLOs.

Considerations

- Opportunity for cross-disciplinary teamwork for both students and faculty.
- Provides some vertical integration or general education learning at lower and higher levels of the student's educational experience.
- Course development needs clear explanations and funding model with attention to faculty workload.
- Issue for how ESSE workload will be assigned in team taught classes.
- ESSEs must be available and effective in all modes of delivery.
- ESSEs must be tagged under COM, HUM or SOC.

Recommendations

The workgroup recommends that additional ESSE exploration occur beyond the existing ESSE courses. Intentional ESSEs should be created with the purpose of gathering feedback about the viability of the concept for Oregon Tech. The workgroup recommends pilot ESSEs focus on a variety of delivery modes and learning situations including distance education, working professionals, industry partnerships, etc. The goal of these experimental courses is to better understand the concerns above through deliberate course output. Further discussion is needed on incentivizing faculty to create ESSEs.

Development of experimental courses should begin during winter 2019, with the expectation that courses will premiere during fall 2019 and during the rest of that academic year. This effort should continue to be overseen by the ESSE committee under the direction of General Education Advisory Committee and the Office of Academic Excellence.

Option 4: Program Integration (Recommended for consideration after implementation of Option 2)

This option connects program courses and the ESLOs learned in general education courses. Program integration creates greater relevance of ESLOs within programs. Through the six-year cycle of ESLO assessment and the tagging of courses, the institution has already begun the process of program integration to a certain extent, although some programs have participated in greater amounts than others.

Considerations

- Connection between the ESLOs and programmatic curriculum.
- Greater relevance given to general education by connecting to program courses.
- Influence of course approval and tagging process on programmatic curriculum.
- The relevance of ESLOs to all programs.
- Potential impact on transfer students.

Recommendations

The group supports the concept of connecting general education outcomes with student learning through program integration by continuing the six-year ESLO assessment cycle. However, there are still many details that need to be worked out for full program integration.

The six-year ESLO assessment cycle should continue as scheduled. Beginning in winter 2019, work should begin on reviewing the course tagging process to improve clarity and flexibility. This work should be completed through GEAC, under the direction of the Office of Academic Excellence.

Option 5: Vertical Integration (Not Recommended at this time)

Vertical integration is the idea that there are foundation level general education course and practice level general education courses. Vertical integration poses a problem for many transfer students that results in a loss of credits and perhaps a loss of students.

Considerations

- ESLOs are introduced and reinforced in more depth in a subsequent general education course.
- Serious transfer issues as a student attempting to transfer a large number of foundational courses will find that many will not transfer effectively.
- Difficult for programs with inverted curriculum as most general education is taken during the latter years of the program.

Recommendations

While the group sees benefits in vertical integration within the Essential Studies general education model, the transferability concerns outweighs the perceived benefits. By removing vertical integration from the Essential Studies model the loss of transfer credits, as seen in the 2017 Transfer Impact Study (See Appendix C), should be minimized. The Office of Academic Excellence should rework the Transfer Study based on recommended model changes to determine credit loss and report back to GEAC.

Option 6: Capstone (Not Recommended at this time)

Many programs at Oregon Tech have a capstone built into the curriculum where ESLOs could be integrated. Doing so allows some level of vertical integration and a connection between the ESLOs learned and programmatic curricula. This also creates a place where the ESLOs are emphasized again toward the end of a student's learning experience.

Considerations

- ESLOs are introduced in the individual programs, reinforcing the relevance of general education concepts within a chosen discipline.
- Potential credit neutrality issues if no relevant capstone course is required within the current curriculum.
- Concerns whether all six ESLO pathways and programmatic material can be achieved in one course.
- Faculty discomfort in assessing ESLO mastery at a capstone level.
- ESSE already provides a similar synthesis experience.

Recommendations

Reinforcing ESLOs in all programs and at all levels introduces numerous constraints. A capstone has intrinsic value but is not recommended for implementation at this time. The concept still needs to be investigated to determine if all six ESLOs and programmatic outcomes can be effectively assessed in one course. The workgroup also believes that ESSE exploration will provide valuable insight for whether faculty and students can teach and learn all ESLOs successfully in one course, thus demonstrating the possibility of doing so in capstones.

Implementation and Timeline

This report highlighted six options with a variety of possibilities that could be implemented. In summary, the workgroup recommends the following:

Recommendations

- Implementation of option 2 with exploration of Option 3, specifically the ESSE.
- The ESSE should be explored for long-term viability by intentionally considering teaching locations, interdisciplinary nature of the course, workload issues, etc.
- The ESSE should initially be tagged in an ESLO pathway in the Social Science, Humanities or Communication departments in order to ensure the ESSE is credited towards graduation requirements.
- Besides Option 1, no option is completely budget neutral.
- Special attention should be paid to faculty workload and staff necessary for implementation.
- Implementation should be led by a project manager appointed by the Provost. This person could come from the Office of Academic Excellence or elsewhere. The project manager will work with previously existing committees and offices to facilitate the change.
- The project manager should practice principles of shared governance and transparency following current university policies and guidelines.

Timeline

The progressive implementation should be completed by the Fall 2020 and follow these recommended timelines based on the university catalog cycle.

- The workgroup will provide to administration a report of its discussion and recommendations early during Fall quarter 2018 with the expectation that administration will make a decision about general education by the end of Fall quarter 2018. Data will be delivered to administration by the Office of Academic Excellence to assist in decision making.
- Office of Academic Excellence will redo the Transfer Impact Study during Fall 2018 and will review program maps to assess impact of revisions on departments.
- During Fall 2018, potentially impacted general education departments discuss implications to programs and provide feedback to the Office of Academic Excellence.
- General education departments and ESLO committees develop a comprehensive list of tagged courses during Fall 2018.
- At the end of Fall 2018 or early in Winter 2019, the workgroup's recommendations and administrations decisions should be shared with faculty and staff.

- ESSE development opportunities should begin as early as winter 2019 with a possibility of courses being offered as early as spring 2019. This exploration phase should continue until 2020 at which point evidence-based decisions should be made about the viability of the ESSE as a part of Oregon Tech's general education.
- ESLOs should continue to be assessed in their regular cycles in order to make decisions about how to advance general education further.
- For clarity and ease of communication, a visual model of general education should be completed by Fall 2019 through the Office of Academic Excellence.
- By Fall 2019, development of internal and external marketing and communication regarding changes to general education is complete.

Conclusion

In summary, following the charge to refine the Essential Studies model, develop an implementation plan, and designate timelines for action, the workgroup collaborated with a desire to improve general education at Oregon Tech, making it more intentional, reducing barriers to students, improving the existing general education model, and enhancing student performance.

The workgroup recommends that Option 2 be adopted during Fall 2018 and be implemented by Fall 2020 with work towards this end beginning Winter term 2019. Also, the workgroup recommends that investigation into the possibility of implementation of Option 3 begin during Winter 2019. The workgroup was mindful about budget in its deliberation, and believes finances, academic quality and improved student learning should be driving decision-making factors in an administrative commitment to general education changes.

Option 2 with the exploration of Option 3 will require allocation of the following resources:

- Two new faculty lines in Humanities and Social Sciences (one at Klamath Falls and one at Portland-Metro). Minimum HSS salary $40,568 ($68,139 with OPE). These positions are necessary for teaching an increased number of foundational ethics courses.
- One new temporary 1.0 FTE classified position in the Registrar's Office to assist in the tagging of general education courses and degree audits. Estimated salary $31,284 ($56,978 with OPE).
- Marketing dollars for communicating the new general education requirements to all campus and off-campus constituents. Estimates include $5,000 for printing and other materials costs and $10,000 for possible campus events, travel or off-campus events to educate constituents about the new requirements.
- Stipends and course release time for faculty to incentivize development and/or teaching of ESSE courses during the two-year exploration and development period.

The General Education Reform Ad-Hoc workgroup respectively submits our recommendation to the Provost for further administrative review and encourages follow-up meetings with the workgroup chairs and other committee members to provide additional depth and understanding of the recommendations. Further, the workgroup strongly recommends its conclusions and administration's decisions be shared with faculty and staff.

Appendix A

Report of the General Education Review Task Force (GERT Force)

June 10, 2016

Oregon TECH

Report of the General Education Review Task Force

June 10, 2016

CJ Riley
Sandra Bailey
Maria Lynn Kessler
Terri Torres
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Maureen Sevigny
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Executive Summary

The General Education Review Task Force (GERTF) was formed in spring 2013 to conduct a comprehensive review of university general education requirements and develop recommendations to improve the program, after the General Education Advisory Council (GEAC) had found it difficult to respond to multiple proposals requesting changes to general education requirements. The expected outcomes of the review included

1. A rationale for general education requirements
2. Recommendations regarding general education requirements and/or ISLOs for clear alignment
3. A recommended structure for an ongoing review process
4. Support during implementation of general education requirements and/or review process
5. Recommendations for institution-wide support of general education goals

The review and recommendations took three years to complete and included an internal review that involved surveys of student, faculty, and alumni stakeholder groups, meetings with all academic departments and student affairs, review of catalogs, accreditation requirements, previous reform efforts, and state academic agreements. The external review included a literature review, general education conference attendance by members of the task force and other university faculty, and consultation with general education experts at the AAC&U Summer Institute. The majority of the three-year period was devoted to development and vetting of various iterations of a revised general education model. Early work by the Assessment Commission to revise the 8 Institutional Student Learning Outcomes (ISLOs) into six Essential Student Learning Outcomes (ESLOs) formed the basis for the new general education program, called Essential Studies.

Initial program mapping to the learning areas that would become the ESLOs allowed the task force to identify gaps and areas of strength in the current program. The formation of outcome committees to develop specific recommendations to support the learning outcome areas allowed the institution to have targeted conversations about how students could best be supported in achieving the ESLOs. Additional program mapping exercises using revised versions of the Essential Studies program, and department meetings to gather input and answer questions, ultimately allowed the task force to develop the Essential Studies program, and a supporting rationale for it, with due consideration and a delicate balance of many competing interests including general education and program departments, transferability, curricular intentionality, alumni and employer desires, and many others. The development of a unified committee structure for the Assessment Commission, Commission on College Teaching, and GEAC, that includes the outcomes committees will ensure a sustainable review and support process into the future.

The Essential Studies program maintains the 47 credits considered to be at the core of the current general education requirements (18 communication, 12 social science, 9 humanities, 4 natural science, 4 math), but restructures them according to pathways associated with the six ESLOs. Twenty nine credits of foundational coursework supports practice-level coursework in the pathways that is divided into 15 credits of essential practice offered by general education departments, program-integrated courses specified by major programs, and an Essential Studies Synthesis Experience (ESSE) course supported or offered by general education departments, which draws the outcome pathways together to ensure students have an interdisciplinary learning experience that synthesizes their general education coursework prior to demonstration of the outcomes at the capstone level in a program-specified learning experience.

While the work of implementation is ongoing, and a timeline is offered in this report, the recommendation of the task force is complete and is incorporated in detail in this report along with elaboration of the process, committees, and individuals involved. Additional materials produced during the review process, including detailed survey results, meeting minutes, and intermediate documents, have been carefully archived and are available for review.

Introduction

The General Education Review Task Force (GERTF) was formed during winter term 2013, following a charge for a comprehensive review of Oregon Tech's general education requirements issued by Provost Brad Burda on January 29, 2013 (Appendix A). This charge was prompted by a request from the General Education Advisory Council (GEAC) chair Cristina Negoita. Due to limited institutional knowledge of the justification and rationale of the current general education program, GEAC had found it difficult to respond to multiple proposals requesting changes to general education requirements over the past several years. This led to the request for a comprehensive review by an ad hoc committee to establish a rationale for general education that could be used by GEAC as a basis for making future revisions to general education requirements.

The original charge recognized that this review would span several years and require input from both internal and external stakeholders. In conducting this review the task force was asked to draw on work that has been done in recent years with the Association of American Colleges & Universities' (AAC&U) LEAP Vision project, the development and assessment of our own Institutional Student Learning Outcomes (ISLOs), and statewide efforts incorporating community colleges and public universities in an attempt to define what the broad outcomes should be for all degrees independent of discipline using the Degree Qualifications Profile (DQP). The expected outcomes of the review included:

1. A rationale for general education requirements
2. Recommendations regarding general education requirements and/or ISLOs for clear alignment
3. Recommended structure for an ongoing review process
4. Support during implementation of general education requirements and/or review process
5. Recommendations for institution-wide support of general education goals

The General Education Review Task Force initially included the following membership:

- C.J. Riley (Civil Engineering), co-chair
- Sandra Bailey (Director of Assessment), co-chair
- Terri Torres (Mathematics)
- Maria Lynn Kessler (Psychology)
- Matt Search (Communication)
- Jenny Kellstrom (Medical Imaging Technology)
- Maureen Sevigny (Business Management)
- Provost Brad Burda (ex-officio)

In spring of 2015, Linda Young (Communication) replaced Matt Search on the task force. The first meeting of the task force was held on April 23, 2013. The task force began its work by developing a three-year timeline for the review and the following guiding principles.

General Education at Oregon Tech is:

Aligned with Oregon Tech's mission, vision, and strategic plan

We maintain that Oregon Tech's vision for General Education must reflect the institution's overall principles, values, and goals. General Education is and must remain an integral part of Oregon Tech's mission, vision, and strategic plan.

Engaged with the Oregon Tech community

We recognize that General Education is a function of the university as a whole. We commit to seeking, welcoming, and valuing the views of all members of the Oregon Tech Community.

Informed by internal and external expertise

Our goal is to articulate a rationale for General Education at Oregon Tech that incorporates both:

- The body of knowledge generated by past and current scholarly research into General Education practices, policies, and outcomes; and
- The expertise, experience, and institutional knowledge of Oregon Tech's stakeholders, both internal and external.

Adaptable to current and future needs

We recognize that the guidelines for General Education at Oregon Tech must not only provide a rational foundation for policies that reflect the needs and goals of our students, our institution, and our community as they currently exist, but also must be flexible enough to provide a framework for future policies.

As the General Education Review Task Force, we commit to:

Transparent, open communication

We believe that the best way to encourage an engaged, inclusive, institution-wide review process is to ensure that our work is transparent and accessible to the community at large. We will report to our community throughout the review process, through a variety of venues; we will provide various methods for our community to participate in the review process.

A collaborative process

The General Education Review Task Force is not intended to be a representative body, proposing and establishing specific policies for Oregon Tech. Rather, we are members of the Oregon Tech community, and all stakeholders in the future of General Education at Oregon Tech. Our goal is to collaborate with our fellow stakeholders at each stage of the review process.

Timeline of the Review

2013—2014

- External review (described in section III)
- Internal review (described in section II)
- Development of subcommittees (work described in section II)

2014—2015

- Outcomes subcommittees formed (work described in section V)
- Development of a conceptual model for general education at Oregon Tech
- Development of rationale for general education (defined in section IV)
- Development of a governance structure to support general education (described in section II)

2015—2016

- Governance structure implemented
- Development of final model for Oregon Tech general education (defined in section VI)
- Development of implementation plan and timeline (described in section VII)

Internal Review

In fall 2013 the task force began an internal review of general education at Oregon Tech which included:

- reviewing current general education requirements and structures;
- surveying faculty, students and alumni to identify opinions, expectations, and opportunities;
- visiting all academic departments seeking input about strengths and weaknesses of current program;
- gathering institutional knowledge of general education review and reform efforts;
- compiling a history of general education at Oregon Tech; and
- forming subcommittees charged with more detailed review efforts and recommendations to guide the continued work of the task force.

Previous General Education Review and Reform Efforts

Recognizing the need to develop a justification and rationale for Oregon Tech's general education program, the task force dedicated several meetings in early fall 2013 to gathering institutional knowledge regarding the current general education program and past review and reform efforts. In addition to reviewing reports by DeRosier, Brown, and Clark, the task force met with several current faculty to capture their reflections on past work in general education, including Kevin Brown, Linda Young, Mark Neupert, and Mark Clark. It was clear that there had been no substantive change to Oregon Tech's general education model for over thirty years, though several groups had conducted previous reviews. This review emphasized the need for mechanisms for a sustainable review process and improved governance structures to support recommended changes.

As a follow-up, the task force created subcommittees in fall 2013 to aid the task force in a more detailed assessment of the current general education program and provide recommendations for potential changes. The reports and recommendations of these subcommittees follow.

Documentation of Historical General Education Requirements

In addition to the review of historical documents and gathering of institutional knowledge, the task force charged the Documentation subcommittee to review and compile the general education requirements from Oregon Tech catalogs beginning with the 1971-72 catalog. The general education requirements from 1971-2015 are located on the Oregon Tech general education website.

Common general education requirements for baccalaureate degrees first appeared in the Oregon Institute of Technology catalog in 1979 along with seven institutional competencies.

1. Ability to think clearly and effectively, and use the scientific method to propose reasonable solutions to problems.
2. Ability to read and to communicate effectively, both orally and in writing.
3. Ability to develop and maintain mental and physical health.
4. Familiarity with underlying principles in physical, biologic, and social sciences and mathematics.
5. Ability to establish and maintain harmonious and ethical professional and personal relations, and responsibly adapt to a changing social structure.
6. Informed acquaintance with the technical philosophic, literary and artistic achievements of man.
7. Preparation for responsible participation in decision-making through awareness of our heritage and the impact of social, economic and environmental change on mankind's future.

1979-80 General Education Requirements

- 18 credits Communications
- 9 credits Humanities
- 12 credits Social Science
- 12 credits Technology
- 16 credits Math/Science
- 5 credits Physical Education/Health

The structure for general education at Oregon Tech has remained relatively unchanged over the past thirty plus years. Most notable changes in requirements include:

- 1981—a requirement of 36 credits in math and science or 45 credits in math, science and social science was added to receive the Bachelor of Science degree;
- 1985—a 6 credit upper division business requirement was added, then increased to 9 credits in 1987;
- 1993—the 5 credit physical education/health requirement was dropped;
- 1995—an Intercultural Studies "recommendation" was added;
- 2003—the 12 credit technology and 9 credit business requirements were dropped; and
- 2005—lab science requirement added.

Of significant interest is the 36/45 requirement added in 1981 since this requirement and lack of clarity for the rationale behind this requirement was one of the concerns that prompted this review. The task force was particularly interested in researching the origin of this requirement. Based on this explanation in the 1981-82 catalog, "most departments have incorporated the math, science and social science requirements into their curricular requirements," it appears that this requirement may have been added to serve integration within the major.

Current General Education Requirements

- 18 credits Communications
- 9 credits Humanities
- 12 credits Social Science
- 16 credits Math/Science
- 36 credits Math/Science or 45 credits Math/Science/Social Science

Accreditation and Program Requirements

The Accreditation and Program Requirements subcommittee was led by Jenny Kellstrom and included membership from a wide variety of Oregon Tech programs:

- Jenny Kellstrom—Medical Imaging Technology, Chair and Task Force liaison
- Linda Young—Communication
- Rose McClure—Natural Sciences
- Matt Sleep—Civil Engineering
- Teresa Wolfe—Clinical Lap Science
- Ben Bunting—Humanities
- Jim Hulse—Respiratory Care
- Sean Sloan—Mechanical Engineering
- Christina Crespo—Electrical Engineering
- Maria Lynn Kessler—Psychology

This group was charged with ensuring consistency of general education curricular requirements with program and institutional accreditor requirements. A report listing all programmatic accrediting bodies and a summary of curricular requirements relating to general education was compiled by the subcommittee and provided to GERTF (Appendix B).

Broadcasting and Marketing

The Broadcasting and Marketing subcommittee was charged with ensuring that the general education review was transparent and accessible to the community at large, and supporting the value of general education through marketing. As the general education review evolved into general education reform, the charge of the Broadcasting and Marketing subcommittee shifted to include branding of the new general education program and development of marketing materials to support implementation of the new program. Membership of this subcommittee includes:

- Christian Vukasovich, Department of Communication, Chair
- Sandra Bailey, Director of Assessment, General Education Review Committee Liaison
- Kevin Brown, Department of Communication
- Di Saunders, Associate VP for Communication and Public Affairs
- Bill Goloski, Publications and Graphic Design Manager
- Holly Anderson, Admissions
- Ryan Madden, Department of Humanities and Social Sciences
- David Hammond, Department of Mathematics

The initial work of transparency for the general education review was initiated by the GERTF. Incorporating input from the task force, Sandra Bailey developed a website linked from the Provosts' webpage designed to provide updated

information on the review process to various stakeholders. Information on the website included the original charge from the Provost and expected outcomes of the review, guiding principles developed by the task force, a timeline for the review, subcommittee membership and charges, resources and readings identified by the task force, and reports of the task force throughout the review process.

The Broadcasting and Marketing Subcommittee was formed winter term 2014 and held its initial meeting March 6, 2014. During this meeting the subcommittee reviewed its charge and made recommendations for the already established website. Several additional modes to achieve the goal of transparency were initiated by this group including updated reports and FAQs on the website, visits to department meetings, announcements at Faculty/Administrator meetings, university wide forums, and reports during fall convocations. Copies of presentations are located on the general education review website.

In January 2015, the subcommittee received a specific charge from Oregon Tech President, Chris Maples, via the task force. This charge was to develop a name and tagline for the common education experience of Oregon Tech students. The subcommittee reviewed examples from other institutions, the Oregon Tech mission statement, and the draft rationale for general education created by the GERTF. In addition, the subcommittee received suggestions from faculty, staff and students. Following a vetting process the committee recommended "Essential Studies" to describe the new general education model being developed by the task force. During spring term 2015, the name was presented to campus during a forum introducing the conceptual model.

The work of the Broadcasting and Marketing subcommittee will continue through the implementation of the Essential Studies program transitioning from a subcommittee of the General Education Review Task Force to a subcommittee of the Academic Excellence Coordinating Committee. The subcommittee's charge through implementation includes:

1. Develop messaging about the current process (implementation timeline).
2. Generate and test names and descriptions of the various elements of the Essential Studies program and support structures.
3. In close cooperation with the Marketing Department, develop talking points, language and materials to describe the Essential Studies program for the various groups who will be describing it (faculty, admissions, advisors, executive staff, board).
4. Integrate the Essential Studies messages with the University's messages.

Structures and Processes

The membership of the Structures and Processes subcommittee was made up of the General Education Advisory Council (GEAC), with Terri Torres as chair and liaison to the task force. This subcommittee was charged with conducting a review of current general education structures and processes, making recommendations for changes to general education structures and processes, and planning for implementation of any changes to policy, structures, and processes. This subcommittee consisted of

- Aaron Scher, Department of Electrical Engineering and Renewable Energy
- Andria Fultz, Department of Communication
- Dawn LoweWincentsen, Librarian
- Dibyajyoti Deb, Department of Mathematics
- Douglas Lynn, Department of Computer Systems, Chair of CPC
- James Ballard, Department of Mathematics
- Linda Young, Department of Communication
- Matt Search, Department of Communication

- Molly OShaughnessy, Department of Natural Science
- Ryan Madden, Department of Humanities and Social Sciences
- Sandra Bailey, Director of Assessment

Following a review of existing GEAC policies and procedures the Structures and Processes subcommittee determined the need for a better defined structure and committee organization to support the ongoing maintenance of general education at Oregon Tech. Major problems were identified that contributed the committee's inability to make substantive changes to general education over the past several years including:

- no documented rationale for general education to serve as a foundation on which to base change;
- no system of periodic review of general education;
- a lack of continuity given high turnover in leadership and membership of GEAC;
- GEAC was mostly tasked with looking at individual general education requirements, without a global vision;
- a scarcity of institutional knowledge led to ongoing changes to policies and procedures;
- GEAC had a perceived lack of decision-making power;
- a lack of professional development for faculty serving on GEAC; and
- a lack of designated support staff.

The subcommittee envisioned a governance structure that would connect GEAC to the work of existing committees to better leverage the scarce resource of faculty time and energy. The biggest connections emerged between general education (GEAC) and the following groups:

- the Commission on College Teaching (CCT), which could be leveraged to provide and support faculty professional development focused on the general education program,
- the Assessment Commission, which measures student learning and identifies opportunities for improvement both within programs and general education; and
- the outcomes subcommittees created to redefine Oregon Tech's institutional student learning outcomes and recommend general education requirements to support these outcomes.

Given the Assessment Commission's already strong connection with CCT to deliver convocation workshops that support both bodies (and the institution), it was decided there needs to be a structure that more clearly aligns the work of the two committees. Given general education's (developing) clear association with institutional student learning outcomes, which form the basis of our institutional assessment work, alignment is not only reasonable but more efficient. And given CCT's mission of promoting excellence in teaching at the institution, it makes sense that they are the body to strategically identify opportunities to promote those areas with identified needs for improvement.

Recommendations

- Unify committee structures to better support the work of GEAC, CCT and the Assessment Commission (Appendix C).
- Establish Essential Student Learning Outcomes (ESLO) Committees as standing committees with shared membership with the three main committees to ensure ideas and initiatives are connected.
- Appoint a Director of Academic Excellence to coordinate the work of these committees and lead the Center of Academic Excellence at Oregon Tech.
- Hire a dedicated executive assistant to support the Director and three main committees.

- Establish the Academic Excellence Coordinating Committee including the chairs of the three main committees and the Director of Academic Excellence.
- Connect GEAC to Faculty Senate by including the chair of Academic Standards as a member of GEAC and providing regular general education reports at Faculty Senate meetings.
- Establish release time for the chairs of the three main committees to focus on the needs of these three critical committees and to form the basis for a potential Center for Academic Excellence that would serve faculty in a more apparent way to promote the goals of general education and teaching excellence.
- Establish funding for professional development through conference attendance for the chairs of the three main committees and the Director of Academic Excellence.
- Develop charters/charges for each of these committees defining roles and responsibilities and post on the Provost's webpage.
- Review Oregon Tech's governance structure in light of these proposed changes and other governance changes at the institution. It is important the Academic Excellence structure is clearly aligned with other existing groups to ensure open communication between faculty committees and decision making bodies.

Provost Brad Burda approved the recommended governance structure in spring 2015 and began implementation fall 2015 by establishing the ESLO committees as standing committees, appointing a Director of Academic Excellence, and providing support staff. The three main committees have been charged with rewriting their charters in 2015-16. In addition, GEAC has developed and piloted a course approval process (Appendix D) and developed a timeline for approval of all Essential Studies courses in 2016-17 coordinating with the Curriculum Planning Commission (CPC) processes. Implementation of the Essential Studies program will be led by the Academic Excellence Coordinating Committee beginning spring 2016.

Outcomes and Assessment

The membership of the Outcomes and Assessment subcommittee included the Assessment Executive Committee, with Veronica Koehn as chair and Maria Lynn Kessler as liaison to the task force. Their charge included a review of internal and external assessment data, identification of gaps, and recommendations for changes to general education requirements and/or ISLOs. In addition, this group was asked to revise assessment plans and processes as needed.

ISLO Review

The 2013-14 review of Oregon Tech's Institutional Student Learning Outcomes included reflection on seven years of ISLO assessment data, mapping the ISLOs to the general education requirements, and comparing ISLOs and current Gen Ed requirements to national trends (the DQP and the AAC&U LEAP Essential Learning Outcomes). The subcommittee found the ISLOs and general education requirements were not aligned and therefore submitted to GERTF a recommendation to revise the ISLOs based on six learning areas identified the in review (Appendix E).

During the fall 2014 Convocation, the task force led faculty in a mapping exercise. Program faculty mapped their curriculum to the six learning areas. Following this exercise six outcomes subcommittees were formed to define the learning areas and criteria. The subcommittees completed their work and provided recommendations for changes to the ISLOs in November 2014. The Assessment Executive Committee compiled the recommendations and held a faculty forum on December 2, 2014. Six new ISLOs were adopted by the Assessment Commission and approved by the Provost on February 2, 2015 (Appendix F). In spring of 2016 Oregon Tech's ISLOs were renamed Essential Student Learning Outcomes (ESLOs) to more clearly connect to the general education program, Essential Studies.

The Outcomes and Assessment subcommittee also recommended changes to the academic assessment plan to formalize connections created with the new governance structure, connecting assessment findings to the work of CCT and GEAC to better support continuous improvement. The result is a six year continuous improvement cycle connecting ESLO assessment, professional development, and general education (Appendix G). The Assessment Commission began implementation of this six year cycle beginning in 2015-16.

Articulation and Transfer

Maureen Sevigny served as the liaison to the task force regarding articulation and transfer by providing information on current transfer policies and articulation agreements, and warning of potential issues with transferability in the creation of new general education requirements. In spring 2016 a transfer committee was formed with Marla Edge, Director of Academic Agreements, as chair. The charge of this group is to organize the work surrounding transfer through the implementation process.

Stakeholder Input

The Stakeholder Input subcommittee of the General Education Review Task Force was charged with gathering input from stakeholders by conducting surveys and/or forums. Membership included:

- CJ Riley—Task Force liaison
- Michael Benedict – ASOIT President
- Justin Parnell – Alumni Survey
- Carl Thomas – HS/CC connections and prospective parents
- Brittany Miles – Industry
- Barb Conner - Retention
- Joseph Maurer – Student Affairs
- Dan Ziriax – Graduate Survey and Career Services
- Sophia Lyn Nathenson – HAS and survey writing
- Ken Usher – Health

The subcommittee conducted surveys of faculty, students, and alumni beginning in fall 2013. The results of these surveys summarized below, were used to develop the rationale for general education at Oregon Tech. In some cases, there was very clear alignment between the highest ranked outcomes of general education between the stakeholder groups, such as all groups prizing clear and persuasive written communication, but faculty had a clear preference for breadth of study, problem solving and decision making with ethical, evidence-based approaches, while students and alumni seemed focused on working effectively with others to reach similar outcomes. Complete survey results are maintained in the GERTF archive. The written comments from these groups were particularly enlightening and indicated in some cases just how important general education is and in other cases how misunderstood it is and how dismissive some students and alumni can be about its value, especially when compared to major courses. These comments, whether positive or negative, ultimately confirmed the necessity of the review and reform.

Top 10 Ranked Outcomes of General Education from Faculty, Student and Alumni Surveys

Faculty	Students	Alumni
Write clearly and persuasively	Write clearly and persuasively	Write clearly and persuasively
Practice ethical decision making	Converse with anyone	Listen actively
Critically evaluate information	Solve a wide variety of problems	Read and understand a variety of topics in a variety of media
Recognize bias	Listen actively	Converse with anyone
Use data to evaluate claims	Critically evaluate information	Be humble and tolerant
Solve a wide variety of problems	Get things done in the real world	Solve a wide variety of problems
Make connections between diverse fields of study	Read and understand a variety of topics in a variety of media	Critically evaluate information
Read and understand a variety of topics in a variety of media	Be humble and tolerant	Practice ethical decision making
Be self-critical/recognize personal bias	Seek out intellectual challenges	Use the scientific method
Use the scientific method	Practice ethical decision making	Be self-critical/recognize personal bias

The AAC&U employer survey and economic trend research was also referenced at this point in the review. It provides valuable support for a broad education that incorporates the application of general studies in addition to field-specific learning.

External Review

In the early stages of the review process the task force recognized a need to survey the general education landscape beyond the borders of Oregon Tech. Beginning in the summer of 2013 task force members conducted a literature review reading a wide range of publications focused on the evolution of general education and higher education in the United States. Some of the most influential readings are included in Appendix H.

In addition, the GERTF attended general education conferences and institutes sponsored by AAC&U and the Association for General and Liberal Studies where task force members learned from other institutions involved in similar reform efforts. In the spring of 2014 the task force held a faculty forum and presented the findings from the external review as "National Trends in Gen Ed." The presentation included basic features of general education models and examples from a variety of institutions.

In June 2014 six members of the task force attended the AAC&U Institute on General Education and Assessment. During the Institute, campus teams explore intentional, well-defined, and meaningfully assessed models of general education; processes of redesign; and the implementation of highly effective practices aligned with the Essential Learning Outcomes. This week-long institute provided the Oregon Tech team with the opportunity to bring together much of what was gleaned from the internal and external reviews and begin to shape a new general education model. Institute faculty offer their time during the week to consult with campus teams; the Oregon Tech team was fortunate to connect with Ann Ferren, a senior fellow at AAC&U. Ann continued to consult with the task force over the next two years reviewing progress and offering advice on curricular reform, as well as, academic processes and governance. Other

key takeaways from the Institute included a recognized need for resources for sustainability, institutional reward structures, and communication strategies throughout the review process.

Rationale Development

The development of a rationale to support Oregon Tech's general education program was a main outcome of this review and was informed by both the internal and external reviews. The rationale which follows is unique to Oregon Tech and aligned with our mission (Appendix I). The first draft was presented at a Faculty-Administrator meeting on March 11, 2014 and the final version was the basis of the recommendations of the task force presented at the April 19, 2016 Faculty/Administrator meeting. The task force recommends that GEAC use the rationale as a guide when considering future changes to general education requirements.

Essential Studies Rationale

Given Oregon Tech's

- applied mission
- diverse student body composed of traditional and non-traditional, first-year and transfer, first-generation, low-income and legacy students
- history of rigorous professional preparation
- established focus on communication
- teaching-focused faculty
- innovative programs and general electives
- established culture of assessment
- excellent placement rates for graduates

and

- the rapidly changing nature of technology and the world, and
- the fundamental purpose of a university to educate students both broadly and deeply

Oregon Tech will ensure that students are equipped not only with the technical ability to influence and succeed in the world through a particular program of study, but that they will apply their skills and knowledge eloquently, responsibly, collaboratively, objectively, considerately, and in broad contexts beyond the major program.

Oregon Tech will provide students with ways to engage in lifelong and professional learning by developing their abilities to effectively

- communicate
- conduct inquiry and analysis in diverse fields
- practice ethical decision making,
- work with others
- reason quantitatively, and
- function individually and within diverse global and cultural systems.

In support of these outcomes, Oregon Tech will offer and maintain an Essential Studies program that

- is intentional and scaffolded
- is developmental with Essential Student Learning Outcomes (ESLOs) supported and demonstrated at the foundation, practicing, synthesis, and capstone levels

- prepares active and educated citizens with a sense of personal and civic responsibility as well as a professional career
- provides a broad education in areas outside of the major program allowing for personal growth, broad disciplinary learning, and exploration
- allows students the freedom to choose from a variety of elective courses
- includes upper-division coursework that may be required even for transfer students and is intentionally tied to lower division or transfer work
- provides opportunities for interdisciplinary courses and co-teaching
- incorporates high-impact practices supported by strong faculty professional development structures
- uses a curricular design philosophy that ensures that all cognitive levels of Bloom's taxonomy are addressed at each level of achievement (foundational, practice, capstone) but that the difference between these outcome levels is the amount of scaffolding and instructor support
- is integrated with major programs with necessary communication and staff supported by the administration and faculty policy
- is reviewed and updated on a regular cycle, based on rigorous assessment data

Reform Process

Insights gained from the review (April 2013—June 2014) not only supported the development of the rationale for general education at Oregon Tech, but also indicated the need to make changes to the governance structure to support general education and adjustments to Oregon Tech's current general education model. As mentioned, the beginnings of the reform process began at the AAC&U summer institute in June 2014 where the task force first developed a vertically integrated model for general education.

The following fall (2014) six outcomes committees were formed (Appendix J) to redefine institution-level student learning outcomes based on the recommendation of the Outcomes and Assessment subcommittee. Once outcomes and criteria for assessment were vetted and approved, these groups went on to recommend curricular pathways that would lead to fulfillment of the identified expectations upon completion of a baccalaureate degree (committee reports are maintained in the task force archive). The task force held a two-day retreat with consultant Ann Ferren in March 2015 to consider the recommendations from these committees and further develop the model. The result of this work was presented at a Faculty/Administrator meeting on May 5, 2015 and followed up with visits to all academic departments to collect feedback on the model.

Fall 2015 brought further refinement of the model, curricular mapping of all academic programs, and more rounds of vetting seeking input from ESLO committees (formerly outcomes committees) and academic departments. Based on this round of feedback, the task force spent winter term making final adjustments to the model and developing the recommendations detailed in the next section of this report.

The final model and task force recommendations were presented to the university community through a series of presentations in April 2016. A summary of these presentations and approvals follows:

- **ESLO Committees and GERTF Subcommittees**, April 1, 2016—as the individuals involved in development, this group was the first to preview the model, hear recommendations regarding implementation, and ask questions.
- **Faculty Senate**, April 5, 2016—C.J. Riley gave a final report from GERTF and asked for support to move to implementation resulting in a unanimous vote.
- **Executive Staff**, April 12, 2016—this group also supported the move to implementation and identified many positive benefits to the institution as a result of this work.

- **Provost's Leadership Team**, April 13, 2016—the presentation to this group focused on resource needs and the implementation timeline. The group also offered their support to move forward.
- **Academic Council**, April 15, 2016—this presentation allowed academic department chairs to ask questions regarding implementation, faculty workload, implications on transfer, and assessment of the new model. This group was asked to support faculty and recognize their efforts through the implementation process.
- **Faculty/Administrator Meeting**, April 19, 2016—task force co-chairs C.J. Riley and Sandra Bailey presented the final recommendations and details of the Essential Studies Program. Provost Brad Burda thanked faculty for their excellent work on this project over the past three years and provided a commitment to support the work moving forward.

A detailed timeline of the work is provided in Appendix K. GERTF meeting minutes and feedback from department visits have been submitted to the Provost along with this report.

Recommendation

Following the extensive review and reform process described in this report, the General Education Review Task Force recommends replacing Oregon Tech's current distribution model for general education with the newly developed Essential Studies program. These recommendations are in addition to the previously approved and implemented recommendations regarding governance structures, and processes for assessment and general education course approval described in section II of this report.

The Essential Studies Program

- is unique to Oregon Tech and supportive of our applied, hands-on mission;
- is directly tied to the rationale for general education (section IV) developed as an outcome of the review;
- provides experiences that lead to the development of demonstrable proficiencies aligned to Oregon Tech's ESLOs;
- ensures the Oregon Tech ESLOs will be practiced and integrated at increasingly more challenging levels from Foundation to Capstone and are deliberately connected to the complexities of the world beyond college;
- integrates student learning as it prepares students for the changing nature of knowledge, even in their own fields;
- is deliberately designed to prepare all students for their personal, civic, and professional lives beyond Oregon Tech by fostering knowledge of the wider world and by preparing them to think analytically and learn collaboratively; and
- asks that curricula go beyond simply requiring students to take courses from different disciplines. The program asks that students explore connections among different disciplines and then apply information and habits of mind learned in one setting to other settings. Deliberateness is essential; it is not enough to be exposed to information.

Purpose of Essential Studies

Oregon Tech's Essential Studies program has been designed to help students

- acquire knowledge and skills as integrated elements of the educational experience through the study of broad topics, principles, theories, and disciplines;
- widen perspectives, explore relationships between subjects, and develop critical and analytical thinking skills in areas integrated with a student's major;

- make progress toward becoming educated persons while providing a Foundation for lifelong learning; and
- become competent, well-rounded professionals as well as well-educated human beings and citizens.

Oregon Tech's Essential Student Learning Outcomes (ESLOs) are embedded in the Essential Studies curriculum and help to ensure that students are not only equipped with the technical ability to enact significant change in the world through a particular program of study but are also prepared to enact that change eloquently, responsibly, collaboratively, and considerately. The Essential Studies program provides students with opportunities to engage in lifelong and professional learning by effectively

- communicating,
- conducting inquiry and analysis in diverse fields,
- practicing ethical decision making,
- working with others,
- reasoning quantitatively, and
- working within diverse global and cultural systems.

Employers want graduates who can

- contribute to innovation in the workplace,
- think critically, communicate clearly, and solve complex problems, and
- draw on both field-specific knowledge and skills and a broad range of skills and knowledge (as cited in *General Education Maps and Markers*, AAC&U, 2015).

Identified Gaps in Current Program

Through the internal and external reviews described in sections II and III of this report, specific problems were identified with Oregon Tech's current general education program and requirements. The following table describes these gaps and the specific solutions designed into the Essential Studies program.

Identified problem in current GE	***Essential Studies solution***
Current distribution model with 'a la carte' menu of disconnected courses. Curricular mapping indicates lack of clarity and intentionality between institutional outcomes and the curriculum.	Coherent curriculum defined by what all Oregon Tech students should know and be able to do when they graduate. Connections of foundation to practice to capstone. Integrated into the discipline, synthesis in the ESSE and Capstone. ESLO pathways articulate clear connection of required coursework to the six essential outcomes.
Students lack an understanding of the outcomes they are expected to achieve and fail to see the relevance of GE courses.	The Essential Studies program requirements identify the outcomes (ESLOs) and the curricular pathways to achieve them. GE and major complementary. Major programs place greater value on GE proficiencies by enabling students to continue to develop those proficiencies.
Curriculum is not vertically connected outside the program. The 36/45 requirement provides depth in program rather than GE.	Practice and capstone levels build upon foundation knowledge and skills. Depth outside the major in required practice courses.

Diverse Perspectives ESLO is not a GE requirement and curricular mapping reveals that it is not systematically addressed by programs.	Diverse Perspectives foundation course and pathway.
Reinforcement of writing is not intentional in current GE program. Writing assessments indicate students have difficulty transferring skills from WRI courses into disciplinary writing.	Writing at the practice level is integrated into the program through Essential Practice course and Program-Integrated courses. Writing is reinforced in the upper division Essential Studies Synthesis Experience and program-defined Capstone. Professional development supporting common expectations and pedagogy is provided for faculty teaching practice courses.
Assessment results indicate a weakness in inquiry and analysis skills.	Inquiry and analysis foundation courses, Essential Practice courses, Program-Integrated courses and the Essential Studies Synthesis Experience.
Assessment of the Math Knowledge and Skills ISLO indicated a vast difference in expectations across majors, this led to the Assessment Commission adoption of the new Quantitative Literacy ESLO as a better institutional outcome. Quantitative Literacy has been defined with personal, civic and professional components. The current math requirement does not connect to the new ESLO.	The Quantitative Literacy foundation statistics requirement provides essential skills so students can apply quantitative reasoning in personal, civil and professional settings. The Essential Studies Synthesis Experience will reinforce all aspects of Quantitative Literacy.
Ethical Reasoning ESLO is not consistently embedded in curriculum across programs. While most programs address professional ethics at some level, few students are exposed to formal ethical reasoning to guide ethical decision making in all aspects of their lives.	The recommendation builds on programs' strengths to introduce ethical obligations within the profession. The Essential Practice courses introduce and apply moral theories to guide students in making rational moral judgements. The Program-Integrated courses apply ethical reasoning in the context of the discipline. Ethic reasoning is reinforced in the Essential Studies Synthesis Experience and the Capstone.
No requirement exists to provide opportunities for students to work with others outside their major. Students being "siloed" in major programs limits their practice of Essential Studies skills to a narrow application, when employers are asking for a curriculum that requires students to integrate their major area of study with other disciplines and apply all they have learned to real-world situations.	SPE 321 Small Group and Team is being repurposed as a foundation course (SPE 221) equipping students with knowledge and skills for collaborative work at the practice and capstone levels of the Teamwork pathway. The Essential Studies Synthesis Experience, designed as a co-curricular experience, involves collaborative application of learning to real-world challenges.

The Essential Studies Pathways and Levels of Achievement

The Essential Studies program is structured to provide an intentional progression via six pathways from foundation, through practice, to capstone levels of student achievement based on the university's six Essential Student Learning Outcomes (ESLOs). Levels of achievement are described at the foundation, practice, and capstone levels for each pathway and are supported by essential foundational and practicing-level coursework, program-integrated practicing-level coursework, a synthesis course and a capstone experience.

Courses will be approved by GEAC based on recommendations from ESLO Committees to support a particular pathway at a particular level of achievement. Courses will be taught by content area experts, determined by a representative department(s), to satisfy the established ESLO criteria at a particular level of achievement:

Pathways, ESLO Committees, and Representative Departments

Pathway (and ESLO Committee)	Department(s)
Communication	Communication

Inquiry and Analysis	Humanities and Social Sciences Natural Sciences
Ethical Reasoning	Humanities and Social Sciences
Teamwork	Communication
Quantitative Literacy	Applied Mathematics
Diverse Perspectives	Communication Humanities and Social Sciences

Relationship to Current General Education Requirements

The Essential Studies program maintains 47 credits in the university's current general education program, which is articulated in terms of distribution requirements:

- Humanities – 9 credits
- Social Science – 12 credits
- Communication – 18 credits
- Natural Science – 4 credits
- Mathematics – 4 credits

Accreditation and program constraints will ensure that programs have the necessary Math and Science to support their technical goals, alleviating the need for the math/science/social science block requirements in the current model. The primary goal of the Essential Studies program is to support student achievement at the capstone level in the six ESLOs. Disciplinary breadth in traditional general education disciplines represented by the previous distribution requirements has also been maintained.

Pathways

The requirements of the six pathways are each described here individually from the foundation to capstone level. Rubrics for each ESLO clearly describe the criteria and level of proficiency that must be demonstrated by the student at each level.

<u>Communication</u>

- Foundation: 9 credits (WRI121, WRI122, SPE111)
- Essential Practice: at least 3 credits from the practicing communication list
- Program-Integrated Practice: one or two courses selected by the major program that address written and oral criteria in the context of the major
- ESSE: Practice-level communication criteria will be demonstrated in an ESSE course
- Capstone: Capstone-level communication will be demonstrated in a capstone experience defined by the major program

<u>Inquiry and Analysis</u>

- Foundation: 3 credits humanities, 3 credits social sciences, 4 credits lab-based natural sciences
- Essential Practice: 3 credits humanities, 3 credits sciences (outside of areas that traditionally support the major)
- Program-Integrated Practice: one course selected by the major program that addresses practicing-level inquiry and analysis in the context of the major
- ESSE: Practice-level inquiry and analysis criteria will be demonstrated in an ESSE course

- Capstone: Capstone-level inquiry and analysis will be demonstrated in a capstone experience defined by the major program

Ethical Reasoning

- Foundation: one course within or prescribed by the major that introduces ethical reasoning
- Essential Practice: 3 credits from the ethical reasoning list
- Program-Integrated Practice: one course selected by the major program that integrates ethical reasoning in the context of the major
- ESSE: Practice-level ethical reasoning criteria will be demonstrated in an ESSE course
- Capstone: Capstone-level ethical reasoning will be demonstrated in a capstone experience defined by the major program

Teamwork

- Foundation: 3 credits (SPE 221 Small Group and Team Communication)
- Program-Integrated Practice: one course selected by the major program that integrates teamwork in the context of the major
- ESSE: Practice-level teamwork criteria will be demonstrated in an ESSE course
- Capstone: Capstone-level teamwork will be demonstrated in a capstone experience defined by the major program

Quantitative Literacy

- Foundation: 4 credits in statistics (MATH 243 or MATH 361)
- Essential Practice: 3 credits from the quantitative literacy list
- Program-Integrated Practice: one course selected by the major program that integrates quantitative literacy in the context of the major
- ESSE: Practice-level quantitative literacy criteria will be demonstrated in an ESSE course
- Capstone: Capstone-level quantitative literacy will be demonstrated in a capstone experience defined by the major program

Diverse Perspectives

- Foundation: 3 credits from the foundational diverse perspectives list
- Essential Practice: 3 credits from the practicing diverse perspectives list
- Program-Integrated Practice: one course selected by the major program that integrates diverse perspectives in the context of the major
- ESSE: Practice-level diverse perspectives criteria will be demonstrated in an ESSE course
- Capstone: Capstone-level diverse perspectives will be demonstrated in a capstone experience defined by the major program

Levels of Achievement

The Essential Studies program is developmental in design, beginning with a broad foundation in traditional general education courses, supported by additional practice in general and program coursework, and culminating in a capstone experience.

All courses in the Essential Studies program must be approved by GEAC to satisfy the criteria for the designated pathway and level of achievement.

Foundation

The foundation level provides a broad education in areas outside of the major allowing for personal growth and exploration. Foundational courses guide students via intensive work in a highly structured environment to learn new skills, gather tools, and acquire basic factual knowledge that supports the ESLOs. Assignments at this level are likely to be guided and scaffolded. Active learning is appropriate at this level.

The foundational level consists of a minimum of 29 credits taught by content area experts:

- Communication: 9 credits in written and spoken communication (WRI121, WRI122, SPE111)
- Inquiry and Analysis: 10 credits from the humanities, social sciences, and natural sciences (from a list of approved courses)
- Ethical Reasoning: a major program or major program-specified course must address ethical reasoning at the foundation level
- Teamwork: 3 credits (SPE221)
- Quantitative Literacy: 4 credits in statistics (MATH 243 or MATH 361)
- Diverse Perspectives: 3 credits (from a list of approved courses)

Courses at the foundation level may be approved to support no more than two pathways. Different courses must be used to satisfy the 29-credit minimum at this level. A single course may satisfy no more than one pathway.

Practice

The purpose of practice level courses is to build on foundational knowledge and skills through intensive work in continued general education, major coursework, and cross-disciplinary experiences. Assignments reflect moderate scaffolding, but students are learning how to work with unstructured/open-ended problems and situations. Students learn how to apply skills and tools in a moderately structured environment.

The practicing level consists of Essential Practice courses, Program-Integrated Practice courses, and an Essential Studies Synthesis Experience.

Essential Practice

Essential Practice courses provide a wide variety opportunities for advanced work in general education courses taught by content area experts. Students will demonstrate ESLO criteria beyond the foundational level.

The Essential Practice courses consist of a minimum of 15 credits in courses supporting

- Communication
- Inquiry and Analysis – Humanities
- Inquiry and Analysis – Sciences
- Ethical Reasoning
- Quantitative Literacy
- Diverse Perspectives

Essential Practice courses may be approved to support up to two pathways, and all pathway designations above are considered.

Program-Integrated Practice

The purpose of Program-Integrated Practice is to integrate student learning, founded in previous Essential Studies courses, into the major course of study. Students transfer essential knowledge and skills through direct application in disciplinary contexts, but courses may be offered by the major program or other departments.

The Program-Integrated Practice courses along with appropriate foundation level prerequisites are selected by the major program and no more than two pathways may be supported by a single course. Pathways that must be supported are Communication (written and oral), Inquiry and Analysis, Ethical Reasoning, Teamwork, Quantitative Literacy, and Diverse Perspectives.

Essential Studies Synthesis Experience

A student must take a course designated as an Essential Studies Synthesis Experience (ESSE). The purpose of the ESSE is, as its name suggests, to synthesize the learning in all six pathways and apply it at the practicing level in a single course, ideally prior to the capstone experience.

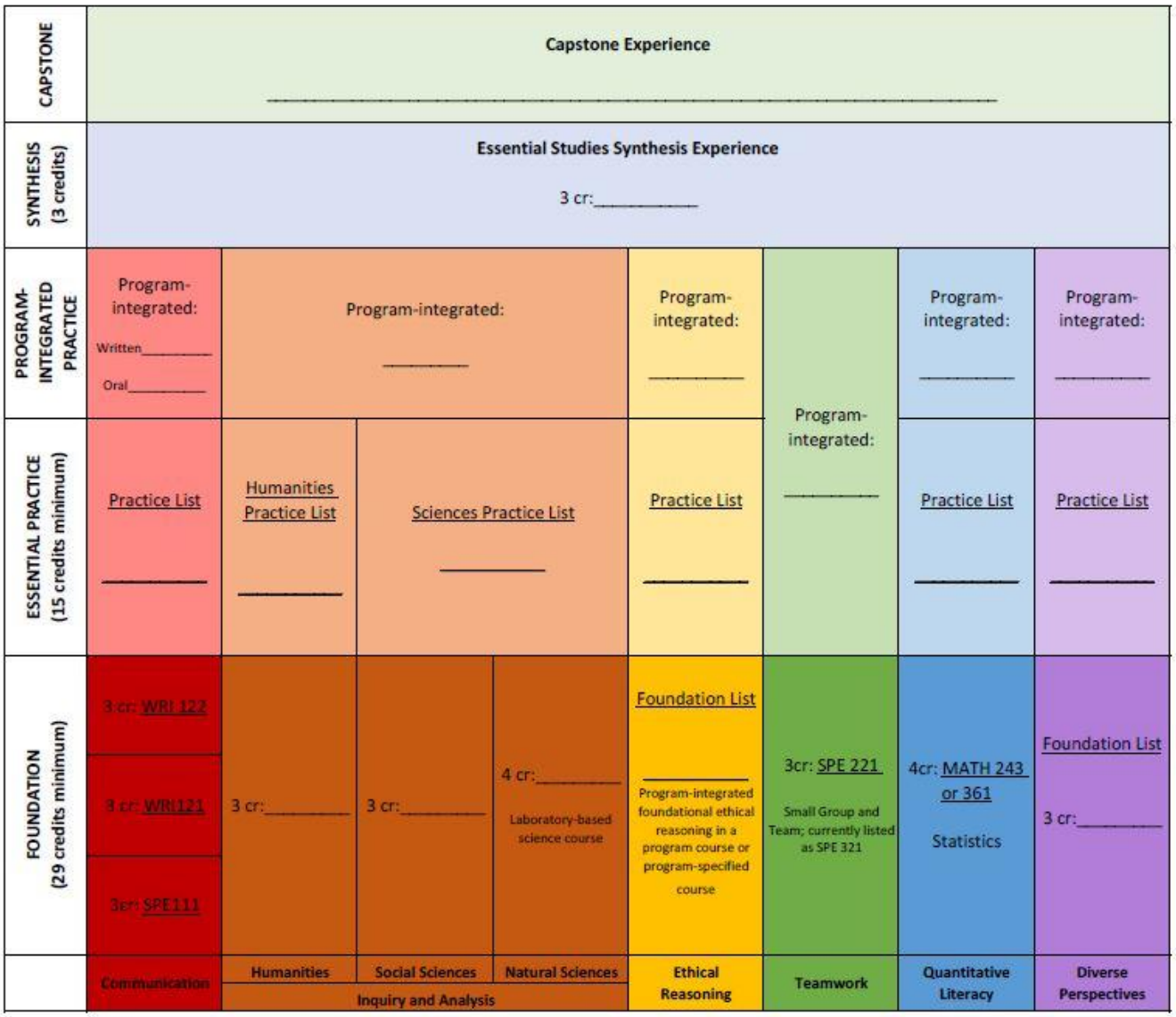
These courses should be interdisciplinary in nature (by topic, major, faculty or student team) and may be taught by anyone in any department at the university, but they are developed collaboratively with the sponsorship of one of the following departments: Communication, Humanities and Social Sciences, Natural Sciences, or Applied Mathematics. At least one foundational course in each pathway must be completed prior to a student taking an ESSE course.

Capstone

The Essential Studies Capstone is a culminating experience unique to each major program where students demonstrate ESLO proficiency at a level expected at completion of the bachelor's degree.

The capstone level of achievement in each pathway must be demonstrated by a student in a capstone project, course(s), externship or experience identified by the major program, preferably in the senior year, within the context of the major program, and not necessarily in a single course or experience. Students are given opportunities to apply knowledge and skills in unstructured environments and work independently to address unscripted problems. At this level, students are expected to meet the criteria with minimal or no prompting; scaffolding is essentially gone.

The Essential Studies Program requirements are summarized and may be visualized using the following table.



The task force recommends relying on established committees and processes to further develop details of the Essential Studies program within the spirit of the established rationale for general education. GEAC will be responsible for all Essential Studies course approvals and population of appropriate lists specified in the model. It is recommended to begin building lists with existing general education courses, then filling in critical gaps with new courses. The recently formed ESSE Council will further define parameters for the Essential Studies Synthesis Experience (initial description in Appendix L). In addition, the task force recommends creating an ad hoc Capstone Council to support programs in capstone development/adjustment to address baccalaureate level proficiency in all ESLOs. Detailed responsibilities for these committees and connections to the work of other groups will be further defined in the implementation plan in the following section of this report.

Implementation Plan

The completion of this report is the final duty of the General Education Review Task Force, implementation of the recommendations from this group will pass to various committees as follows:

- **Academic Excellence Coordinating Committee**—will function as the implementation team and coordinate the efforts of all other committees, departments, and individuals involved in the implementation of the Essential Studies program. This group is responsible for allocation of resources to support the implementation and development of the Essential Studies program. The following ad hoc committees will support the implementation as described.
    - **Broadcasting and Marketing Subcommittee**—will work with various groups in creation of messages and materials for a variety of audiences including the Advising Coordinators Commission, Transfer Team, Admissions, and Student Affairs (new student orientation and Leadership Academy). In addition, this group will work with the Marketing Department to develop materials to support the program and integrate Essential Studies messages with the university's messages.
    - **ESSE Council**—will develop parameters for the ESSE, solicit courses from existing experiences and as well as new proposals with options for all locations and delivery modes, and create a plan to scale-up for full implementation.
    - **Capstone Council**—will develop criteria to govern capstone approval and support programs in the development of capstone experiences or revision of existing experiences to incorporate all ESLOs. This group will develop sample assessment tools and coach program faculty in efficient and authentic embedded assessment processes.
    - **Transfer Team**—will work with the Registrar and the Director of Academic Agreements to review existing course equivalencies and articulation agreements, update existing processes and structures to better support the transfer process, and work with transfer partner institutions to provide clear transfer pathways. In addition, this group will provide guidelines for grandfathering agreements for transfer students in the first few years of implementation of the Essential Studies program.
- **General Education Advisory Council (GEAC)**—will approve all Essential Studies courses, manage lists of courses for each pathway, and plan for sufficient offerings in all locations and modes of delivery. This group is responsible for any adjustments to the Essential Studies model in the implementation phase and beyond.
- **Assessment Commission Executive Committee**—will implement the new assessment plan, collect baseline data, and share analysis and recommendations for improvements with appropriate groups. This committee will update ESLOs as needed based on recommendations from GEAC.
- **Commission on College Teaching (CCT)**—will support faculty development and facilitate conversations within ESLO pathways and specific elements of the model.
- **ESLO Committees**—will review Essential Studies course proposals for specific pathways, provide feedback to initiators and requests for revision or make recommendations to GEAC for approval. In addition, these groups will monitor assessment results and make recommendations to GEAC for adjustments to the model or request faculty development opportunities through CCT.
- **Curriculum Planning Commission (CPC)**—will provide a platform for course approval, and review all program curriculum maps for submission, along with Essential Studies course approvals (completed by GEAC), to the Registrar for inclusion in the catalog.
- **Advising Coordinators Commission**—with the help of the Broadcasting and Marketing subcommittee will develop advising materials, revise advisor training to incorporate the elements of the Essential Studies program, and coordinate advisor training for all faculty.

Timeline for Implementation

The task force proposes implementation of the Essential Studies program beginning with freshmen students in fall 2017. In order to meet the 2017-18 catalog deadline and scale-up for the first cohort the following timeline coordinating work from various committees is suggested. A detailed PERT chart and responsibility assignment matrix is located in Appendix M.

Spring 2016

- Academic Excellence Coordinating Committee approve implementation plan, allocate resources, and recommend committee leadership/membership
- GEAC pilot course approval process and plan for 2016-17 work
- Transfer team develop plan and timeline for transfer work
- Broadcasting & Marketing identify various audiences, create marketing plan and timeline for 2016-17 work

Summer 2016

- Call for Essential Studies course proposals (foundation and essential practice)
- ESSE Council attends WPI Institute on Project-Based Learning and drafts parameters for ESSE
- Hire temporary support staff for Registrar and Academic Agreements to aid in transfer work
- Draft charters for GEAC, Assessment Commission, and CCT
- Develop messages and talking points for various audiences
- Marketing Department create visual representation of model and branding for Essential Studies
- ITS complete development of CPC software for fall implementation
- Explore grant opportunities

Fall 2016

- Communicate implementation plan at Convocation
- GEAC approve Foundation and Essential Practice courses
- GEAC develop lists for model by October 31
- Program faculty create new curriculum maps
- Review existing course equivalencies and recommend changes to align with the Essential Studies model
- Broadcasting & Marketing work with Admissions to develop recruitment materials and the Advising Coordinators Commission to develop new advising materials and training
- CPC review Essential Studies courses requiring a CPC course change or new course form
- ESSE Council coordinate work with existing programs, experiences and courses (clubs, STEM Hub, Innovation & Entrepreneurship)

Winter 2017

- Review program maps to evaluate resource needs and plan for new faculty hires
- GEAC develop catalog copy for Essential Studies program
- GEAC plan for fall 2017 offerings and solicit new course proposals to fill critical gaps in model
- Ethical Reasoning ESLO committee approve Foundation courses
- Work with program faculty to create new articulation agreements
- Registrar incorporate changes from the new model into Degree Works

- Pilot ESSEs, gather feedback from faculty and students
- CPC approve program curriculum maps and list of course approvals from GEAC
- Advising training for new faculty to incorporate Essential Studies
- Create Capstone Council to support programs in development/revision of capstone experiences

Spring 2017

- GEAC begin approval of Program-Integrated courses and Capstone experiences
- Visits to transfer institutions
- Advisor training for all faculty
- Plan for new student orientation
- Plan for scale-up of ESSEs
- Create Essential Studies website with connections to assessment and CCT
- Develop student success metrics to assess effectiveness of the Essential Studies program (ESLOs, GPA, retention, NSSE, etc.)

Fall 2017

- ESSE Institute to support new ESSE development
- New student orientation—kick off Essential Studies program
- Advising freshmen in Essential Studies program
- Continue scale-up of ESSEs and other practice level courses

Fall 2019

- Essential Studies program fully implemented
- Assess first cohort at junior level

Spring 2021

- First graduates of the Essential Studies program
- Assess student success at exit

To phase in the implementation of the Essential Studies program and allow time for scale-up, the task force recommends a grandfathering plan for all transfer students beginning in fall 2017 regardless if they enter with an articulation agreement. Focusing first on the Foundation level for fall 2017, which will then allow time for the scale-up of practice and capstone level courses most importantly the ESSE which will require significant time for full development.

Resource Needs

Working with various committees the task force has developed the following recommendations regarding necessary resources to support the implementation of the Essential Studies program. It should be noted however, that all resource needs cannot be identified at this time and it is imperative that resource needs are re-evaluated annually by the Academic Excellence Coordinating Committee to ensure proper support for the success of the Essential Studies program. The intentionality of the program is entirely contingent on availability of adequate sections of Essential Studies courses in all locations and across all modes of delivery.

- **Faculty—**2 new faculty in the Humanities/Social Science department to support the Ethical Reasoning requirement; 1 FTE in interdisciplinary studies to support the development of the ESSE; may require additional faculty to support sufficient offering (re-evaluate in winter 2017); release time for chairs of Assessment, CCT and GEAC.
- **Professional Development**—increased budget for CCT to support workshops; stipends for initial development of ESSES; budget for conference attendance for chairs of Assessment, CCT and GEAC; funds to support advisor training.
- **Director's Office—**full-time support position; budget sufficient to support Essential Studies program.
- **Articulation and Transfer—**temporary staff in Registrar's Office and Office of Academic Agreements beginning fall of 2016 (1 FTE).

In addition to these requested resources, the task force recommends in future planning the institution plan for interdisciplinary spaces for students and faculty.

The task force has explored external funding through grant opportunities and recommends NSF grants as potential funding to develop the ESSE. A group has been identified to support the Academic Excellence Coordinating Committee in developing a proposal.

Conclusion

The extraordinary level of participation and effort on the part of Oregon Tech faculty members over the past three years is evidence that we value general education. The Essential Studies program advances the goals of general education. Instead of experiencing general education as something to "get out of the way," students will see how general education is integral to an Oregon Tech education, is part of a meaningful learning trajectory, and helps prepare them for life beyond Oregon Tech.

With the approval of both faculty and administration the General Education Review Task Force respectfully submits these recommendations to the Provost.

Appendix A: GEAC Charge

To: Brad Burda, Provost, OIT
Marla Miller, Management Dept Chair
From: Cristina Negoita, GEAC Chair
Date: 6/11/2012
Re General Education Requirements

This is the General Education Advisory Council formal response to the request to

…to eliminate the clause in the General Education requirements that states ***"The Bachelor of Science Degree requires the student to opt between completion of 36 credits in mathematics and science or 45 credits in mathematics, science and social science."*** *(pg. 38)*

For some perspective, this requirement is in addition to the following "core" requirements:

- 18 credits in Communication
- 9 credits in Humanities
- 12 credits in Social Science
- 16 credits in Math and Science (with 4 credits minimum in Math, and at least 4 credits in a lab-based science course)

These "core" requirements add up to 55 credits, nearly equally divided among Art (Humanities and Communication add up to 27 credits) and Sciences (Math, Sciences and Social Sciences add up to 28 credits). The additional requirement under review (referred to in this document as the 36/45 requirement) asks a student graduating with a Bachelor's of Science to have a total of 36 credits in math/science or 45 credits in math/science and/or social science. This option creates some inequity in terms of the total credit requirement such that:

- the student opting to fulfill the 36 credits of math/science has to take an additional 20 credits in these areas (16 math/science credits have already been fulfilled as part of the "core");
- the student opting to fulfill the 45 credits of math/science/social science has to take an additional 17 credits in these three areas (16 credits in math/science and 12 in social science add to 28 credits already fulfilled as part of the "core")

The committee recognizes the merit of this proposal in questioning this 36/45 requirement due, in part, to credit inequity depending on which option a student makes. In addition, many programs have built this particular 36/45 credit requirement within their programs, either by choice (as in the case of Communication Studies) or to fulfill accreditation requirements (as in the case of many ABET accredited degrees). The Department of Management is currently the only department which houses some programs that have difficulty in satisfying the 36/45 requirement, and which do not see this requirement as serving their students in the same way that this requirement serves students in majors that have incorporated this requirement in their program.

GEAC is mindful of the impact of this 36/45 requirement on all of our programs, current and future. GEAC is also responsible for the stewardship of general education as a whole, in providing "breadth and depth to the OIT educational experience" (OIT Catalog, 2011-12).

GEAC acquired feedback from the OIT community, performed research on the topic of general education at large, as well as sought our own comparators' and other OUS institutions' general education requirements to understand our place within the broad spectrum of curriculum that's currently part of general education. The decision of what is considered "general education requirements" rests with our university, and are not mandated through OUS or other entities.

Based on our analysis of all this information, GEAC recommends that the proposal to eliminate the 36/45 requirement be denied.

The feedback acquired from the OIT community falls in one of the following areas:

- most constituents seemed indifferent to the proposal;
- some constituents agreed with the proposal, mainly because they did not see their own programs be affected by this proposal;
- some constituents saw this proposal as weakening our standards for a BS education;
- some constituents saw a small loss of students in their courses and viewed the proposal as having a negative impact on their courses;
- some constituents saw this as a benefit to courses offered in their departments as there would be an increase in students in their courses;
- some constituents saw that, through the lenses of general education, the elimination of the 36/45 requirement would make our BS degree similar to our BAS degree.

These views show division of opinions on eliminating the 36/45 requirement. In addition, GEAC's research found that the 36/45 requirement first appeared in the 1981-82 OIT Catalog under general education requirements, but could not locate any substantive reasons for its implementation.

Most of our research in the area of general education at large shows that requirements for general education are linked to the need of having both breadth and depth in the areas of arts and sciences, and that the particular course requirements for general education should support students in becoming professionals as well as well-educated and informed citizens. In particular, our society is more dependent than ever before in our ability (as citizens) to interpret quantitative information and ask critical questions in the areas of science and social science about data gathering processes and their use in formulating various conclusions. Our general education requirements should reflect students' preparation as a competent, critical thinkers of quantitative and qualitative information.

Last, eliminating the 36/45 requirement, would place OIT (in terms of credit-count) at the low end of the spectrum of the total credits acquired by students in fulfilling general education requirements.

Based on our work on this proposal, we recommend that the Provost sends a charge to GEAC to review and recommend comprehensive general education requirements that mirror the needs of a 21st century education.

From:	Bradley Burda
Sent:	Tuesday, January 29, 2013 1:56 PM
To:	Tanya McVay
Cc:	Sandra Bailey; Charlie Jones; Lawrence Powers; Mateo Aboy; Cheryl Meyers
Subject:	GEAC Gen Ed charge

Tanya,

GEAC's review of the Management Department's request for an exemption to 36 credits in mathematics or 45 credits in mathematics, science, and social science has illustrated a need for us to review/reevaluate our overall general education requirements.

We are not alone in this undertaking. OSU recently completed their review. Also, much work has been done in recent years with the AAC&U LEAP vision through a statewide group formed by the Chancellor's office, the development of our own ISLOs, and now a grant incorporating community colleges and public universities in an attempt to define what the broad outcomes should be for all associate and baccalaureate degrees independent of discipline (DQP). All of which can be used as a resource for the work that needs to be done.

I understand that this will be a multi year process and suggest the following timeline:

- **Year 1** - Define the process, including how to dovetail DQP
- **Year 2** - Engage in a campus wide dialogue with the goal of defining Gen Ed outcomes. Compare those outcomes with LEAP, ISLOs, and DQP
- **Year 3**
    - Review our current Gen Ed requirements and recommend changes.
    - Begin the process of submitting changes to CPC

I propose forming a GEAC subcommittee to guide the process. I've met with you, Sandra Bailey, and Maria Lynn to discuss possible membership and will be contacting prospective members in the near future.

Thank you,

Brad

Appendix B: Programmatic Accreditation

Respiratory Care Program
Commission on Accreditation for Respiratory Care (CoARC)
The curriculum must include content in the following areas: Oral and written communication skills, social/behavioral sciences, biomedical/natural sciences, and respiratory care. This content must be integrated to ensure achievement of the curriculum's defined competencies. Biomedical/natural sciences content must include human anatomy and physiology, cardiopulmonary anatomy and physiology, cardiopulmonary pharmacology, chemistry, physics, microbiology, and pharmacology.
Emergency Medical Services Program
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
The curriculum must include content in the following areas: Oral and written communication skills, social/behavioral sciences, biomedical/natural sciences, and respiratory care. This content must be integrated to ensure achievement of the curriculum's defined competencies. Biomedical/natural sciences content must include human anatomy and physiology, cardiopulmonary anatomy and physiology, cardiopulmonary pharmacology, chemistry, physics, microbiology, and pharmacology.
Clinical Laboratory Science Program
National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
No specific requirements for general education.
Dental Hygiene
Commission on Dental Accreditation (CODA)
2-8 "The curriculum must include content in the following four areas; general education, biomedical sciences, dental sciences and dental hygiene science." P. 18 2-9 "General Education content must include oral and written communications, psychology, and sociology." P. 19 2-10 "Biomedical science content must include content in anatomy, physiology, chemistry, biochemistry, microbiology, immunology, general pathology and/or pathophysiology, nutrition and pharmacology." P. 19 2-19 "Graduates must be competent in interpersonal and communication skills to effectively interact with diverse populations, groups and other members of the health care team." P. 23
Diagnostic Medical Imaging, Echocardiography, Vascular Technology
Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)
There are no specific requirements for general education in the JRCDMS standards for programmatic accreditation.
Nuclear Medicine Technology, Radiologic Science Technology
The program is not currently accredited.
There are no specific requirements for general education in the JRCERT standards for programmatic accreditation. However, the JRCERT refers to the ASRT core curriculum of which general education is referenced. The ASRT now requires a minimum of an associate degree for all radiologic science degrees with the assumption that communication, diversity, and logical reasoning are taught.

Electrical Engineering Technology, Manufacturing Engineering Technology, Mechanical Engineering Technology, Computer Engineering Technology, Software Engineering Technology, Embedded Systems Engineering Technology

ABET – Engineering Technology Accreditation Commission (ETAC)

ABET-ETAC accredits programs based on eight criteria, Criterion 5 is Curriculum. There is nothing specific mentioned about Gen. Ed. under the curriculum requirements, but the following items are mentioned, which are pertinent to the discussion on general ed:

Mathematics: The program must develop the ability of students to apply mathematics to the solution of technical problems.

Technical Content: The technical content of the program must represent at least 1/3 of the total credit hours for the program but no more than 2/3 of the total credit hours for the program (Note: math and science content is not considered technical content).

Physical and Natural Science: The program must include physical or natural science with laboratory experiences.

Integration of content: Baccalaureate degree programs must provide a capstone or integrating experience that develops student competencies in applying both technical and non-technical skills in solving problems.

Advisory Committee: An advisory committee with representation from organizations being served by the program graduates must be utilized to periodically review the program's curriculum and advise the program on the establishment, review, and revision of its program educational objectives.

Electrical Engineering, Renewable Energy Engineering, Mechanical Engineering, Civil Engineering

ABET-Engineering Accreditation Commission (EAC)

ABET-EAC accredits programs based on eight criteria, Criterion 5 is Curriculum. The curriculum criterion can be summarized as follows:

The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The faculty must ensure that the program curriculum devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution. The professional component must include:

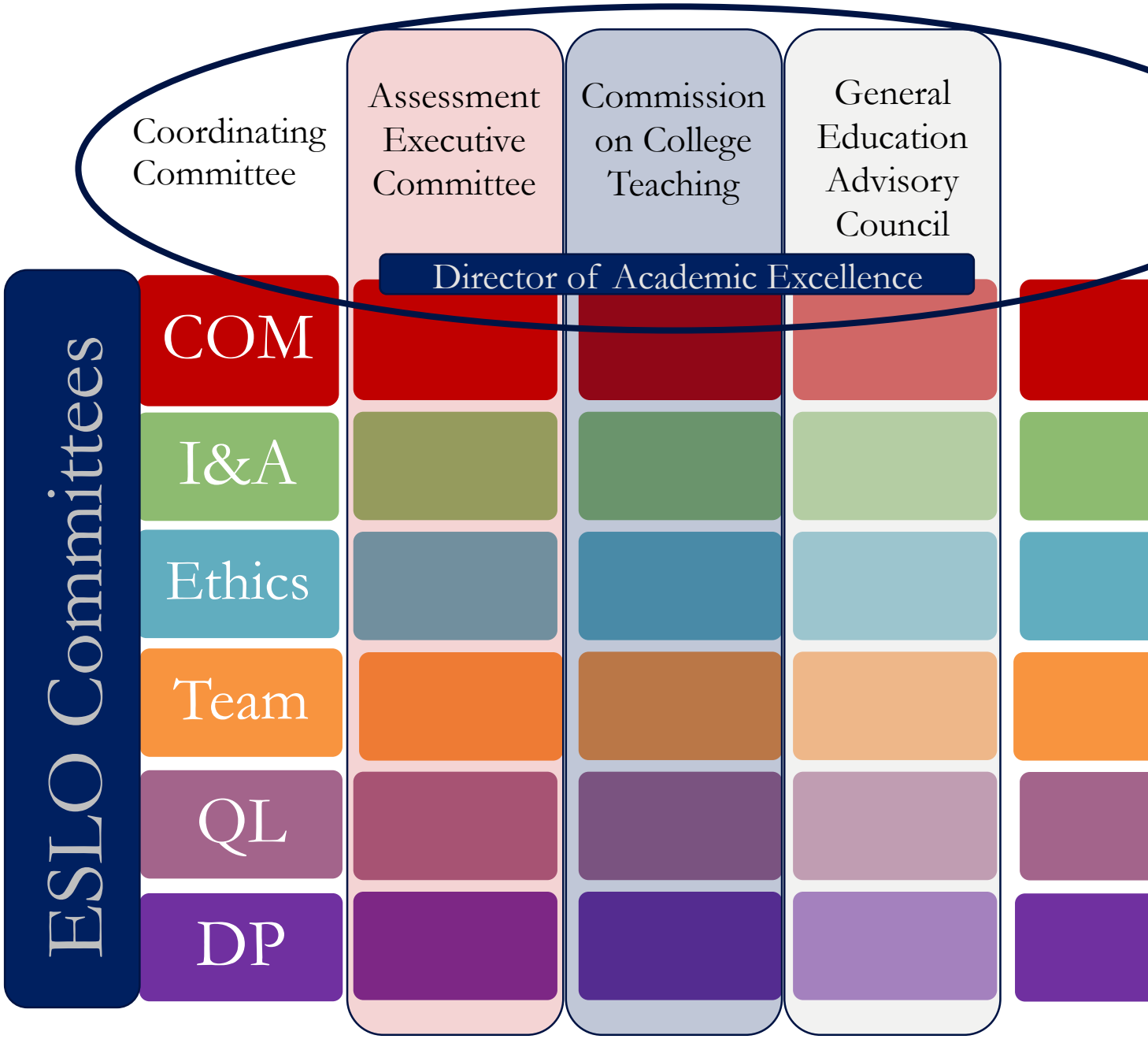
- one year of a combination of college level mathematics and basic sciences (some with experimental experience)
- one and one-half years of engineering topics, consisting of engineering sciences and engineering design appropriate to the student's field of study. The engineering sciences have their roots in mathematics and basic sciences but carry knowledge further toward creative application. These studies provide a bridge between mathematics and basic sciences on the one hand and engineering practice on the other. Engineering design is the process of devising a system, component, or process to meet desired needs. It is a decision-making process (often iterative), in which the basic sciences, mathematics, and the engineering sciences are applied to convert resources optimally to meet these stated needs.
- a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives.

Management, Information Technology, Operations Management, Bachelor of Applied Science in Technology and Management, Health Care Management—Administration option

International Assembly of Collegiate Business Education (IACBE)

IACBE's accreditation manual states that it is their expectation that 40% of a bachelor's degree be comprised of general education courses.

Appendix C: Unified Committee Structure



New Positions

Director of Academic Excellence

- Communicates regularly with
    - Big three committee chairs
    - Academic department chairs
    - Faculty, via convocation presentation
    - University community, via _____
- Support CCT, ESPC, Assessment chairs in their work and implementation of initiatives
- Make recommendations (with big-three chairs) to the Provost for big-three and ESLO committee membership
- Engage in relevant professional development to support Essential Studies and stay abreast of national trends
- Coordinate and communicate academic issues with departments
- Coordinate the development of Essential Studies with ESPC
- Coordinate faculty development opportunities with CCT
- Oversee public relations initiatives and communication efforts for Essential Studies (website, etc)
- Serve as primary liaison to Registrar (and department chairs?) for course availability, catalog, transfer equivalencies,
- Coordinate training for advisors, admissions staff, and Student Success staff (annual training?)
- Ensure Essential Studies is manageable in Oregon Tech Online curricula
- Liaise with and report to relevant bodies on campus (e.g. Faculty Senate)
- Serve on the Provost's Leadership Team
- Serve on Provost's Council and Academic Council
- Represent campus and Essential Studies at external events and to outside stakeholders
- Oversee daily operations of Essential Studies including budget, supervising personnel, preparing annual report and leading conversations for strategic planning
- Teach one course per year on campus
- Other duties as assigned

Academic Excellence Administrative Assistant

Academic Excellence Coordinating Committee

Meeting frequency: beginning of the year and then at least once per term.

Roles and Responsibilities

- Reports to the Provost
- Coordinate recommendations of the big three
- Share information and define collaborations between academic areas and student affairs
- Ensure that student orientation includes Essential Studies
- Write a six-year plan for academic excellence
- Define the deliverables of the big three committees
- Make academic recommendations (not business or admin)
- Chair of Academic Standards reports to Faculty Senate
- Invite Academic Council and Provost's Council to meet as necessary to

Membership

1. Director of Academic Excellence
2. Chair of Assessment Commission
3. Chair of Commission on College Teaching
4. Chair of GEAC
5. Chair of Academic Standards

6. Director of Oregon Tech Online
7. Director of Student Affairs or designee
8. Dean of ETM
9. Dean of HAS
10. Four department chairs, at least two from traditional GE offering departments (HAS/ETM balance?)

Big Three

Envision meeting three times per term

Each makes recommendations to the Provost (with the Director) regarding big-three and ESLO committee membership

1. Assessment Commission Executive Committee

   Roles and Responsibilities

   - Prepare annual report on every ESLO (at respective phase of the cycle)
   - Prepare a report annually summarizing a six-year cycle for a single ESLO

   a. Chair
   b. Communication ESLO Representative *
   c. Inquiry and Analysis ESLO Representative *
   d. Quantitative Literacy ESLO Representative *
   e. Teamwork ESLO Representative *
   f. Ethical Reasoning ESLO Representative *
   g. Diverse Perspectives ESLO Representative *
   h. Other members
2. Commission on College Teaching (CCT)
   Roles and Responsibilities

   Membership
   a. Chair
   b. Communication ESLO Representative *
   c. Inquiry and Analysis ESLO Representative *
   d. Quantitative Literacy ESLO Representative *
   e. Teamwork ESLO Representative *
   f. Ethical Reasoning ESLO Representative *
   g. Diverse Perspectives ESLO Representative *
   h. Other members
3. Essential Studies Program Committee (ESPC)
   ESLO Representatives should be the chair of the ESLO Committee or their delegate. During the transition to Essential Studies, this representative should be a content area expert.

   Roles and Responsibilities

   - Establish and maintain the Essential Studies course content and criteria
   - Make recommendations to balance institutional needs with the needs of Essential Studies
   - Review assessment results
   - Conduct a review of Essential Studies every six years
   - Provide advising materials for distribution to Advising Commission
   - Provide training to department chairs on course criteria (specifically for transfer)
   - Work with six-year assessment cycle…
   - Collect, analyze and summarize ESLO assessment data

- Write an annual assessment report for the Essential Studies program based on ESLO reports at their respective phase of the cycle

a. Chair – C.J. Riley
b. Director of Academic Excellence (Ex-Officio)
c. Chair of Advising Commission (Ex-Officio)
d. Communication ESLO Representative * - Christopher Syrnyk
e. Inquiry and Analysis ESLO Representative * - Seth Anthony
f. Quantitative Literacy ESLO Representative * - Randall Paul
g. Teamwork ESLO Representative * - Dan Peterson
h. Ethical Reasoning ESLO Representative * - Yasha Rohwer
i. Diverse Perspectives ESLO Representative * - Ben Bunting
j. Other members

ESLO Subcommittees

Envision meeting as needed

Roles and Responsibilities

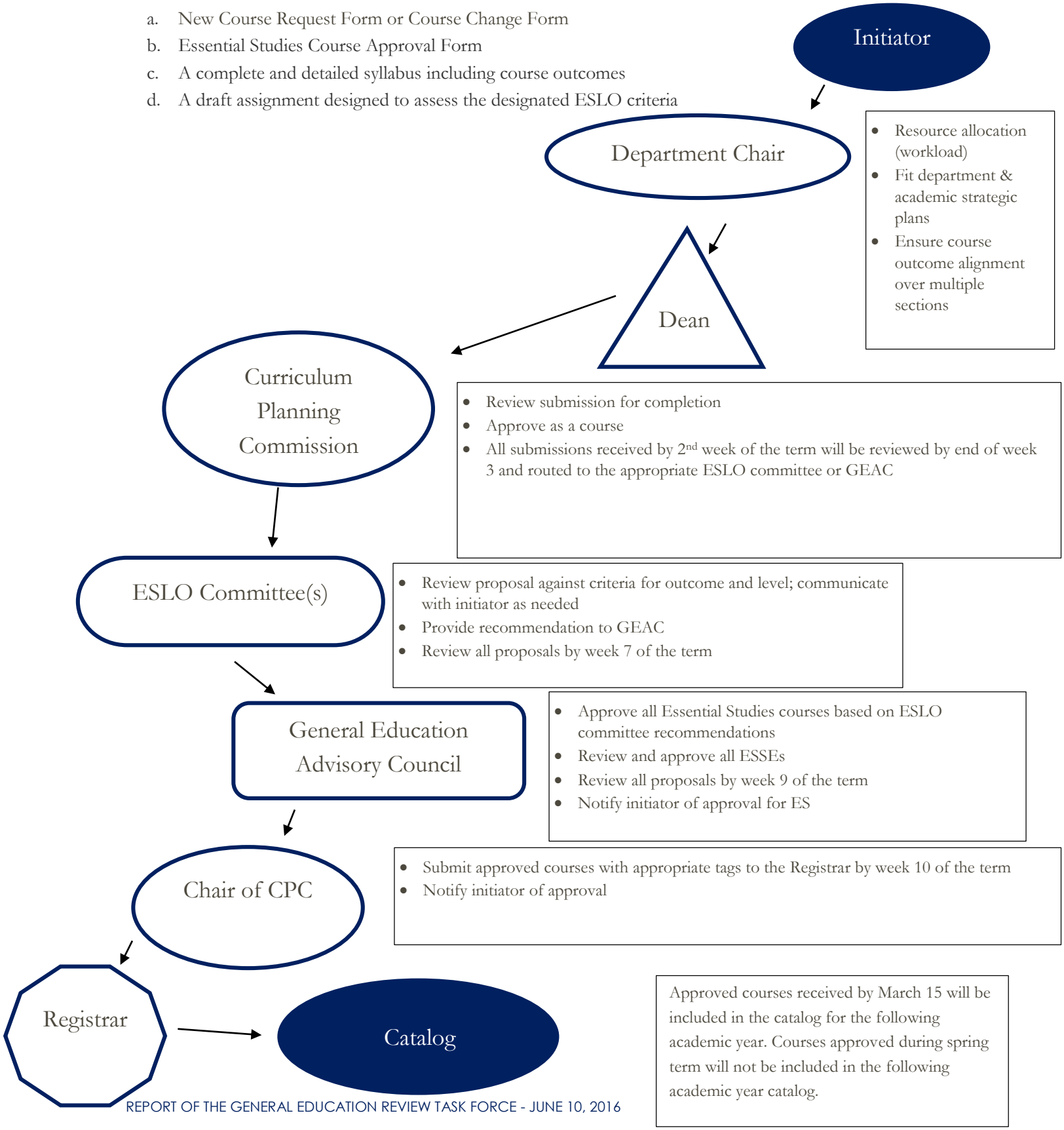
- Establish and maintain criteria to satisfy ESLOs at foundation, practice and capstone levels
- Approve courses satisfying Essential Studies
- Review courses satisfying Essential Studies when course outcomes or content change substantially (see CPC triggers for consistent language)
- Review courses satisfying Essential Studies every 3 years (on a staggered cycle)
- Provide evaluation of transfer course equivalencies, if requested by department chairs
- Recommend professional development to support Essential Studies
- Recommend changes to maintain or improve Essential Studies
- Analyze assessment data every three years as part of the six-year assessment cycle
- Prepare assessment report (as a program)

General Structure of each committee

- Content area expert(s) represented, ideally the chair
- Content area practitioners/consumers (practice/capstone users) included
- Chair could be a representative of one of the big three

Appendix D: Essential Studies Course Approval Process

1. The following procedures apply for approval of, or changes to, Essential Studies courses.
2. The initiator will submit to CPC:
   a. New Course Request Form or Course Change Form
   b. Essential Studies Course Approval Form
   c. A complete and detailed syllabus including course outcomes
   d. A draft assignment designed to assess the designated ESLO criteria



Essential Studies Course Approval Form

Course Title & Number_____

I. Logistical Information: List the projected capacity of the course, terms offered, mode/location of offering.

II. Levels of Achievement & Prerequisites

What is this course's "level of achievement"? (Select foundation, practice or capstone)

- **Foundation**. Learning new knowledge and skills. Assignments reflect significant scaffolding; highly structured environment. Active learning is appropriate at this level.
- **Practice**. Learning how to apply knowledge and skills in scripted examples. Assignments reflect moderate scaffolding, but students are learning how to work with unstructured/open-ended problems and situations; moderately structured environment.
  Prerequisite courses: _____

  Indicate which type of course and specific prerequisites this course builds on:
  - Essential Practice. Practice courses taught by content area experts.
  - Program-Integrated. Practice courses that require demonstration of ESLOs within the major.
  - ESSE. Cross-disciplinary experience that demonstrates synthesis of all ESLOs.
- **Capstone**. Students meet the criteria with minimal or no prompting. Assignments reflect no scaffolding; students work independently in unstructured environments.
  Prerequisite courses: _____

III. ESLO: Indicate which ESLO and criteria this course will fulfill.

☐ COM	☐ IA	☐ ER	☐ TW	☐ QL	☐ DP
☐ Oral ☐ Written	☐ IA-H ☐ IA-SS ☐ IA-NS				
☐ Purpose ☐ Audience ☐ Evidence ☐ Genre ☐ Style & delivery ☐ Visual ☐ Justification	☐ Identify ☐ Investigate ☐ Collect ☐ Evaluate ☐ Conclude	☐ Theory ☐ Recognition ☐ Logic ☐ Judgment	☐ Achieve purpose ☐ Fulfill roles ☐ Communicate ☐ Reconcile ☐ Contribute ☐ Develop strategies ☐ Adjust	☐ Calculate ☐ Interpret ☐ Construct ☐ Apply in context ☐ Communicate	☐ Recognize ☐ Know ☐ Understand ☐ Apply

a. How do students learn and practice the targeted ESLO in this course? Briefly describe how the course addresses each of the criteria checked in the targeted ESLO, including potential texts and course materials. (Attach detailed syllabus that includes course outcomes)

b. How do students demonstrate the appropriate level of proficiency in this ESLO? Briefly describe a significant assignment and student work appropriate for proficiency assessment in this ESLO, identifying how the assignment will require students to demonstrate each criteria you selected. (Attach assignment)

Department chair and dean signatures indicate proposal fits departmental and academic strategic plans and are willing to commit appropriate resources to support the proposed course. In addition, the department chair commits to ensuring course outcome alignment over all sections, locations and modes of delivery.

_____

Department Chair

_____

Dean

Appendix E: Recommendations from the Assessment Commission

May 28, 2014

ISLO 1: Oregon Tech students will demonstrate effective oral, written and visual communication.

Recommend changing ISLO to "Oregon Tech students will demonstrate effective oral and written communication." Visual performance criteria added to both oral and written (as appropriate). Use common language for information literacy criteria for relevant ISLOs.

Recommendations for changes to general education requirements: Vertical integration of written communication to improve gaps identified in information literacy and technical writing.

ISLO 2: Oregon Tech students will demonstrate the ability to work effectively in teams and/or groups.

No changes recommended for this ISLO.

Consider creating a general education requirement; if not feasible, then the Assessment Commission will reconsider keeping as an ISLO.

ISLO 3: Oregon Tech students will demonstrate an understanding of professionalism and ethical practice.

No changes recommended for this ISLO.

Recommend adding ethics as a general education requirement. Consider creating a general education requirement for professionalism and/or career development; if not feasible, then the Assessment Commission will reconsider including professionalism/career development in this ISLO.

ISLO 4: Oregon Tech students will demonstrate critical thinking and problem solving.

Change this ISLO to "Inquiry and analysis" to incorporate yet to be determined aspects of critical thinking, problem solving, lifelong learning, and scientific inquiry.

Recommend aligning general education requirements with this new outcome to provide explicit justification for humanities and sciences (both social and natural). Consider vertical integration to include information literacy.

ISLO 5: Oregon Tech students will demonstrate knowledge and understanding of career development and lifelong learning.

Recommend eliminating as an ISLO and consider incorporating career development in #3.

Lifelong learning should be basis of the rationale for general education.

ISLO 6: Oregon Tech students will demonstrate mathematical knowledge and skills.

Recommend changing outcome to "Quantitative literacy."

Recommend aligning general education requirements with this new outcome; consider vertical integration.

ISLO 7: Oregon Tech students will demonstrate scientific knowledge and skills in scientific reasoning.

Recommend eliminating as an ISLO; incorporate into new "Inquiry and analysis" ISLO.

Recommend aligning science general education requirements with this new outcome.

ISLO 8: Oregon Tech students will demonstrate cultural awareness.

Keep as an ISLO; Assessment Commission subcommittee led by Ben Bunting to explore definition of outcome, criteria, and expectations fall 2014.

Recommend creating a general education requirement to align with this outcome as defined by the subcommittee.

Appendix F: Oregon Tech's Essential Student Learning Outcomes

Oregon Tech's Essential Student Learning Outcomes (ESLOs) support Oregon Tech's institutional mission and core themes. The outcomes and associated criteria reflect the rigorous applied nature of Oregon Tech's degree programs.

The ESLOs reflect the common expectations about the knowledge, skills, and abilities that Oregon Tech students will acquire and are reflected in the General Education requirements that lay the foundation upon which the major curricula build. Engaging in these ESLOs will support Oregon Tech graduates in developing the habits of mind and behaviors of professionals and lifelong learners.

COMMUNICATION

ESLO 1: Oregon Tech students will communicate effectively orally and in writing.

Definition

Communication is the creation, development, and expression of ideas. The Communication ESLO differentiates between oral and written communication. The two forms of communication operate much the same but differ in the criterion *Style and Delivery* because of their differing forms of expression.[1] Both forms of communication involve purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in attitudes, values, beliefs, or behaviors.

Criteria for Communication Assessment

The following are criteria used in the assessment of student work:

- Purpose: Focus and connections made in presentation of evidence.
- Audience: Adjustments in presentation made for differing levels of knowledge and expertise among listeners and readers.
- Evidence: Support provided by research and disciplinary knowledge.
- Genre and Disciplinary Conventions: Adjustments in structure and order made for various fields and forms of presentation.
- Style and Delivery:
    - Oral Communication: Techniques including posture, gesture, eye contact, and vocal expressiveness.
    - Written Communication: Control of syntax and mechanics, as well as craft in choices of phrasing, vocabulary, and structure.
- Visual Communication: Support provided by visual presentation integrated with oral or written content.
- Justification: Self-assessment and support of choices made in communication.[2]

---

[1] Oral communication differs from the Teamwork ESLO because oral communication focuses on an individual speaker presenting, not on interaction. Oral and written communication are assessed individually.

[2] This may be a separate assignment from the written or oral assignment used to assess the other criteria; this justification piece will ask the students to reflect on the deliberate choices they made during the composition process. While this is most often an implicit process, it will be made explicit for the purpose of assessment of at least one piece of written or oral communication.

INQUIRY AND ANALYSIS

ESLO 2: Oregon Tech students will engage in a process of inquiry and analysis.

Definition

Inquiry and analysis consists of posing meaningful questions about situations and systems, gathering and evaluating relevant evidence, and articulating how that evidence justifies decisions and contributes to students' understanding of how the world works.

Criteria for Inquiry and Analysis Assessment

The following are criteria used in the assessment of student work:

- Identify: Identify a meaningful question or topic of inquiry.
- Investigate: Examine and critically evaluate existing knowledge and views on the topic of inquiry.
- Collect: Design and execute a means of collecting evidence
- Evaluate: Analyze evidence obtained in their investigation.
- Conclude: Draw conclusions based on analysis of evidence; grasp the limitations and implications of their analyses.

ETHICAL REASONING

ESLO 3: Oregon Tech students will make and defend reasonable ethical judgments.

Definition

Ethical reasoning is the process of recognizing which decisions require ethical judgments, determining potential reasonable courses of action, finding support for potential courses of action, and then selecting the course of action best supported.

Criteria for Ethical Reasoning Assessment

The following are criteria used in the assessment of student work:

- Differentiate: Explain the differences between ethics and laws.
- Recognize: Recognize decisions requiring ethical judgments.
- Support: Support potential courses of action (via major ethical theories/principles, applicable ethical codes of conduct, etc.) and select the best-supported course of action.
- Apply: Apply ethical reasoning to novel situations.
- Evaluate: Identify and critically evaluate applicable code(s) of ethics and identify common ethical issues in their field.
- Articulate: Articulate a code of personal ethics.

TEAMWORK

ESLO 4: Oregon Tech students will collaborate effectively in teams or groups.

Definition

Teamwork encompasses the ability to accomplish group tasks and resolve conflict within groups and teams while maintaining and building positive relationships within these groups. Team members should participate in productive roles and provide leadership to enable an interdependent group to function effectively.

Criteria for Teamwork Assessment

The following are criteria used in the assessment of student work:

- Identify and Achieve Goal/Purpose: Share common goals and purpose.
- Assume Roles and Responsibilities: Fulfill roles and responsibilities, including leadership roles, which are clearly defined and shared. Members are motivated to complete work in a timely manner and provide leadership in meetings.
- Communicate Effectively: Communicate openly and respectfully, listen to ideas, and support and encourage each other.
- Reconcile Disagreement: Welcome disagreement and use difference to improve decisions.
- Contribute Appropriately: Contribute to discussions, decision-making, and work. The work product is a collective effort.
- Develop Strategies for Effective Action: Use effective decision making processes to decide on action, share expectations for outcomes, and reach consensus on decisions.
- Adjust for Differences: Recognize and adapt to differences in background and communication style.

QUANTITATIVE LITERACY

ESLO 5: Oregon Tech students will demonstrate quantitative literacy.

Definition

Quantitative literacy comprises the ability to appropriately extract, interpret, evaluate, construct, communicate, and apply quantitative information and methods to solve problems, evaluate claims, and support decisions in students' everyday professional, civic, and personal lives.

Criteria for Quantitative Literacy Assessment

The following are criteria used in the assessment of student work:

- Calculate: Perform mathematical calculations correctly (and evaluate/confirm that they have done so).
- Interpret: Extract and interpret quantitative information presented in various commonly used forms (e.g., equations, graphs, diagrams, tables, prose).
- Construct Representations: Convert relevant quantitative information and data into different forms as appropriate (e.g., equations, graphs, diagrams, tables, prose).

- Apply in Context: Apply appropriate quantitative methods, draw justified conclusions, evaluate claims, and make decisions based on quantitative information. Make and evaluate key assumptions in estimation, modeling, and data analysis.
- Communicate: Effectively and accurately communicate quantitative information in writing and verbally using representations (e.g., equations, graphs, diagrams, tables, prose) that are appropriate for their intended audience.

DIVERSE PERSPECTIVES

ESLO 6: Oregon Tech students will explore diverse perspectives.

Definition

Recognition of diverse perspectives requires the self-awareness, intellectual flexibility, and broad knowledge that enables perception of the world through the eyes of others.[3] This includes the awareness and understanding of the customs, practices, and viewpoints of varied cultures, individuals, and identities.

Criteria for Diverse Perspectives Assessment

The following are criteria used in the assessment of student work:

- Recognize: Show awareness of one's own perspectives.
- Know: Demonstrate factual knowledge of the foundations of diverse perspectives.
- Understand: Display understanding of others' perspectives.
- Apply: Apply factual knowledge and understanding of diverse perspectives to their interactions with others.

[3] i.e., from the perspectives of diverse cultures and personalities, with consideration of varied places, histories, and technologies.

Appendix G: Six-Year Cycle and Work Plan for ESLO Subcommittees

Year 1: Design Assessment

Develop assessment plan identifying research questions targeting various levels of proficiency. The following tasks should be considered in developing the plan: review ISLO criteria, review ISLO mapping to the curriculum, develop or review rubrics, review past assessment reports. Set appropriate benchmarks for student attainment at various levels. Plan submitted to the Assessment Executive Committee for approval.

Year 2: Analyze Data

Aggregate and analyze data as defined in the assessment plan. Identify potential changes for continuous improvement considering both curricular changes and professional development. Submit written report summarizing findings to the Assessment Executive Committee, the Commission on College Teaching, the General Education Advisory Council, Academic Council and the Provost.

Year 3: Plan Improvements

Create action plan for improvement relating to curriculum including recommendations for curricular change, changes to ISLO criteria and/or rubrics, and changes to course approval process. Submit action plan to the General Education Advisory Council for approval and coordinate implementation with the appropriate bodies.

Design professional development to be implemented in year four based on plan for improvement considering ways to engage the university community including faculty, staff and students. In developing this plan research best practices and opportunities to collaborate with other institutions. Submit plan to the Commission on College Teaching.

Year 4: Engage the University

With the Chair of the Assessment Commission, present report of findings from year two and planned improvements from year three to the university at fall convocation. Coordinate with the Commission on College Teaching to launch the university-wide focus on outcome through professional development based on plan for improvement engaging faculty, staff and students.

Year 5: Evaluate Results

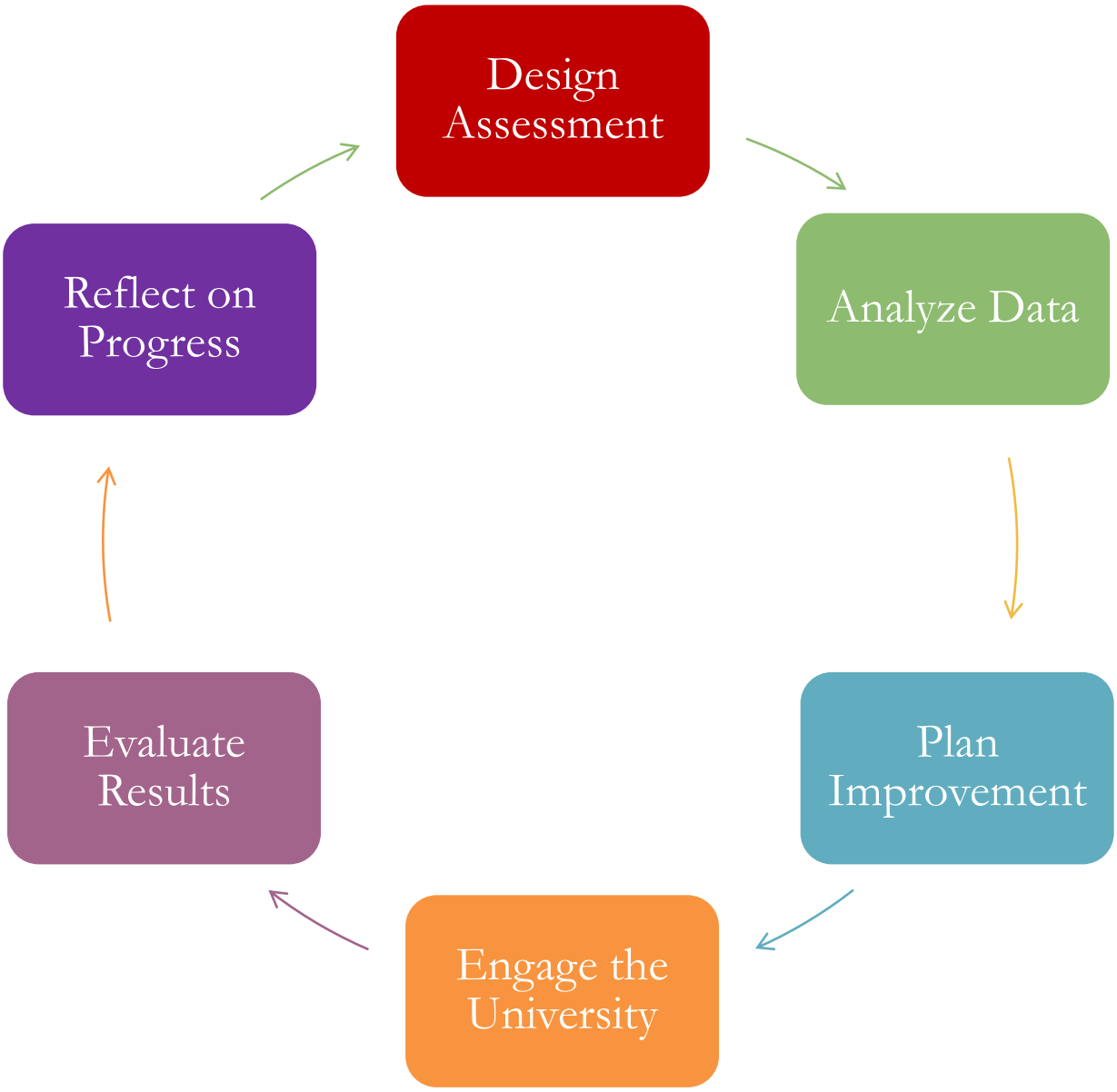
Aggregate and analyze data from targeted areas of weakness identified in the year two report. Prepare a written report indicating areas of improvement and/or recommendations for additional actions. Submit report to the Assessment Executive Committee, the Commission on College Teaching, the General Education Advisory Council, Academic Council and the Provost.

Year 6: Reflect on Progress

Reflect on improvements and consider innovative options for increasing success of all students. Activities could include: mapping outcome and criteria to state and national frameworks, comparing results to state and national benchmarks,

looking at innovative teaching and assessment practices at other institutions, exploring possibilities for collaborations and involvement in state and national projects, seeking opportunities for grant funding to support plans for innovation.

Continuous Improvement Cycle



Six-Year ISLO Cycle

		1	2	3	4	5	6
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Communication		**Design**	**Analyze**	**Plan**	**Engage**	**Evaluate**	**Reflect**
Inquiry and Analysis			**Design**	**Analyze**	**Plan**	**Engage**	**Evaluate**
Ethical Reasoning				**Design**	**Analyze**	**Plan**	**Engage**
Teamwork		**Engage**	**Evaluate**	**Reflect**	**Design**	**Analyze**	**Plan**
Quantitative Literacy	**Analyze**	**Plan**	**Engage**	**Evaluate**	**Reflect**	**Design**	**Analyze**
Diverse Perspectives	**Design**	**Analyze**	**Plan**	**Engage**	**Evaluate**	**Reflect**	**Design**

Appendix H: General Education Literature Review

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Appendix I: Oregon Tech Mission Statement

Oregon Institute of Technology, a member of the Oregon University System, offers innovative and rigorous applied degree programs in the areas of engineering, engineering technologies, health technologies, management, and the arts and sciences. To foster student and graduate success, the university provides an intimate, hands-on learning environment, focusing on application of theory to practice. Oregon Tech offers statewide educational opportunities for the emerging needs of Oregon's citizens and provides information and technical expertise to state, national and international constituents.

Core Themes:

- Applied Degree Programs
- Student and Graduate Success
- Statewide Educational Opportunities
- Public Service

Appendix J: ESLO Committee Membership

Communication

Matt Schnackenberg, Chair (2014-15)
Christopher Syrnyk, Chair (2015-16)
Kevin Brown
Roger Lindgren
Elizabeth Gordon
Aja Bettencourt-McCarthy
Ron Swisher
Sean St. Clair
Linda Young
Cara Calvo
Mike Pierce
David Thaemert
Debbie McCollam
Hallie Neupert
Allan Douglas
Dan Ziriax

Ethical Reasoning

Yasha Rohwer, Chair
Teresa Wolfe, Chair (Fall 2014)
Travis Lund
Franny Howes
Jim Hulse
Mike Pierce
Claude Kansaku
Suzanne Hopper

Quantitative Literacy

Randall Paul, Chair (2015-16)
Matt Beekman, Chair (2014-15)
Richard Bailey
Kari Lundgren
Tara Guthrie
Gregg Waterman
Terri Torres
Jack Walker
Kris Rosenberg
Maria Lynn Kessler
Jim Fisher

Inquiry & Analysis

Seth Anthony, Chair
Yasha Rohwer, Co-chair (2014-15)
Melanie Arthur
Mehmet Vurkaç
Ryan Madden
Jeff Pardy
Matthew Sleep
Kelly Peterson-Fairchild
Lloyd Parratt
Lisa Taylor
Paula Russell
Christopher Syrnyk
Grant Kirby
Sherry Yang

Teamwork

Trevor Petersen, Co-chair
Dan Peterson, Co-chair
Kevin Brown
Evelyn Hobbs
Don McDonnell
Josie Hudspeth
Dongbin Lee
Robyn Wilde
Joe Stuart
Hugh Jarrard
Sharon Beaudry

Diverse Perspectives

Ben Bunting, Chair
Barry Canaday
Sharon Beaudry
Veronica Koehn
Hope Corsair
Deanne Pandozzi
Dibyajyoti Deb
Gregg Waterman
Ryan Madden
Joseph Maurer
Elizabeth Gordon

Appendix K: Timeline of Review

Spring 2012

GEAC submits request to the Provost to form an ad hoc committee to conduct a comprehensive review of general education

Winter 2013

- Provost issues charge
- Task force co-chairs appointed and membership formed

Spring 2013

- First meeting of the General Education Review Task Force (GERTF)
- Develop guiding principles
- Establish timeline for work
- Catalog resources and begin external review

Summer 2013

- External review of general education literature
- Monthly phone meetings by GERTF to discuss

Fall 2013

- GERTF retreat, September 10-11
- Convocation presentation—justification for work and project timeline
- Association for General and Liberal Studies—GERTF conference attendance
- Faculty forums—dot surveys (Klamath Falls and Wilsonville)
- Academic department visits—input about current general education program
- Faculty forum—internal review (results of faculty survey and department visits)
- GERTF subcommittees formed
- Stakeholder Input subcommittee conducted student and alumni surveys
- General education review website created

Winter 2014

- Outcomes and Assessment subcommittee conducted a review of ISLOs
- Structures and Processes subcommittee reviewed existing general education structures and processes
- Accreditation and Program Requirements subcommittee began to catalog general education requirements defined by programmatic accrediting bodies
- AAC&U General Education & Assessment conference in Portland—attendance by Oregon Tech team
- Faculty/Administrator meeting—presentation of draft rationale

Spring 2014

- Assessment Executive committee submits recommendations for changes to ISLOs and/or general education requirements to GERTF
- Structures and Processes subcommittee drafts governance structure to support general education

Summer 2014

- AAC&U General Education and Assessment Institute—GERTF team attends
- Conceptual model first formed
- Presentation to Executive Staff—progress report
- Mapping of co-curricular experiences with Students Affairs directors

Fall 2014

- Initial phone meetings with consultant—Ann Ferren
- Convocation presentation—program mapping curriculum to outcomes
- Outcomes subcommittees formed, draft definitions and criteria for assessment of outcomes
- Faculty forum—proposed changes to ISLOs
- Outcomes and Assessment subcommittee develop new assessment cycle

Winter 2015

- Outcomes subcommittees define learning experiences for attainment of ISLOs at progressively more challenging levels
- Broadcasting and Marketing subcommittee vet names for new general education program
- New institutional outcomes (ESLOs) approved by Assessment Executive committee and the Provost
- Database created from the fall mapping exercise
- Proposed governance structure presented by GERTF to the Provost and receives approval
- GERTF retreat with consultant Ann Ferren—review of outcomes subcommittee recommendations and model development

Spring 2015

- ESLO committees (formerly outcomes subcommittees) provide specific recommendations for outcomes pathways in the context of the draft model, looking for connections to other ESLOs
- Faculty/Administrator meeting—Essential Studies conceptual model presented along with governance structure and assessment cycle
- Academic department visits—feedback on model

Fall 2015

- Convocation presentation—update and timeline of GERTF work
- GERTF retreat—revisions to model and plan for feedback from ESLO
- Implementation of new governance structure with Director of Academic Excellence
- ESLO committee feedback on model
- Faculty forum—presentation of working model, mapping of program curriculum

- Academic department visits—feedback on working model
- GERTF retreat—consider feedback from ESLO committees and department visits

Winter 2016

- Broadcasting and Marketing subcommittee prepared FAQs—presented at Faculty/Administrator meeting and posted on review website
- GEAC develop course approval process
- GERTF rework of model based on fall input and finalize recommendations from the review

Spring 2016

- Presentation to ESLO committees and GERTF subcommittees—preview of final model and recommendations
- Presentation to Faculty Senate—vote to implement new model based on GERTF recommendations
- Presentation to Executive Staff—support for implementation
- Presentation to Provost's Leadership Team—commitment to support implementation and resource requests
- Presentation to Academic Council—request to support faculty through implementation
- Presentation at Faculty/Administrator meeting—GERTF final report and recommendations
- GERTF compile documentation from the review and prepare final report (this report) for submission to the Provost
- GEAC pilot Essential Studies course approval process
- Form Transfer Team to workout transfer agreements and processes through implementation
- Form ESSE Council to further define the Essential Studies Synthesis Experience and plan for implementation
- Broadcasting and Marketing subcommittee create Essential Studies marketing plan
- GERTF transfers responsibility of implementation to Academic Excellence Coordinating Committee on direction of the Provost

Appendix L: Essential Studies Synthesis Experience

The portions of the Essential Studies model described thus far do a great job of checking individual boxes -- helping ensure that students get a breadth of essential skills alongside (and within) a depth of technical expertise in their major.

But let's not lose sight of our broader (and common) purpose:

The world needs citizens (our graduates)

who can think about "whole systems"

and tackle cross-disciplinary problems.

And it's what employers[4] want, too:

- "Nearly all employers (91 percent) agree that for career success, a candidate's demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than his or her undergraduate major."
- "Nearly all employers (96 percent) agree that all college students should have experiences that teach them how to solve problems with people whose views are different from their own."
- "Nearly all employers (90 percent) give hiring preference to college graduates with skills that enable them to contribute to innovation in the workplace."

Explicitly bridging this gap is a natural fit for Oregon Tech, where our goals include:

From the Oregon Tech Strategic Plan:

- offering "small classes that enable them to practice the skill through project-based learning with the guidance of a professor practitioner."
- "teaching students in an environment that will reflect their life and work experiences while on campus and throughout their futures."
- "reflect[ing] the global environment in which our graduates will work"

… and aligns with our aspirations for connecting with our communities and offering personal and professional growth for students, faculty, and staff...

Again, from the Oregon Tech Strategic Plan:

- "continue building mutually beneficial relationships – and our reputational capital [...] so that our graduates are in even greater demand"
- developing "non-traditional partnerships with local communities."
- building "a culture of giving that creates enhanced philanthropy and success"
- "provide additional support for faculty and staff… including: a supported environment in which to innovate"

[4] Hart Research Associates. 2015. *Falling Short? College Learning and Career Success*. Washington, DC: Association of American Colleges and Universities.

So we propose, as the hallmark of the Essential Studies program,
the Essential Studies Synthesis & Application Experience (ESSE).

Taken around the junior year, it synthesizes all six of Oregon Tech's ESLOs into one experience in which a student uses "his or her cumulative learning to pursue a significant project related to a problem he or she defines."[5]

In contrast with capstones in the major, the ESSE is by definition interdisciplinary -- while students may draw upon their disciplinary expertise, they tackle problems best addressed by multi-disciplinary teams, and that lie at the intersections between fields -- between technology and society, between health and engineering -- and require them to work with others with different strengths and backgrounds.

Students' experiences with the ESSE, also prepare them for their more disciplinary capstone -- in which, on top of technical depth, face many of the same challenges in identifying problems, working within teams, analyzing data, confronting interpersonal and ethical difficulties, and communicating with others -- and together, these more effectively prepare students for the large, messy challenges and projects they'll encounter personally and professionally after graduation.

Key Outcomes

1. Collaborative problem solving -- Students work with others to complete a substantial project. Full understanding of the problem requires insights from multiple areas of study.
2. Synthesizing, connecting, transforming -- Students connect relevant experience and academic knowledge and make connections across disciplines and different perspectives. Students transform ideas or solutions into entirely new forms.
3. Transfer -- Students adapt and apply skills, abilities, theories, or methodologies gained in one situation to new situations. Students make explicit references to previous learning and apply knowledge and skills in innovative ways to comprehend and respond to novel situations.
4. Personal and social responsibility -- Students take informed and responsible action to address ethical, social, and environmental challenges in complex systems that exist in a global context and evaluate both the local and broader consequences of individual and collective interventions.
5. Use information effectively to accomplish a specific purpose -- Students synthesize in-depth information from relevant sources representing various points of view or approaches to fully achieve a specific purpose, with clarity and depth.
6. Communication -- Students demonstrate the ability to effectively communicate the results of their work using a medium and message appropriate to the context. Students uses quantitative information in connection with the argument or purpose of the work, present it in an effective format, and explicate it with consistently high quality.
7. Independent Learning -- Students display curiosity, initiative and independence as learners.

Potential Additional Outcomes

1. Creative and innovative thinking -- Students extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.
2. Civic engagement -- Students "work to make a difference in the civic life of our communities and develop the combination of knowledge, skills, values and motivation to make that difference [...] promoting the quality of life in a community, through both political and non-political processes." [6]

[5] *The LEAP Challenge: Signature Work for All Students.* 2015. Washington, DC: Association of American Colleges and Universities.
[6] Civic Engagement VALUE Rubric. Washington, DC: Association of American Colleges and Universities.

Potential Examples:

- Sustainability in the Community: A 20-person class fans out in the community in 4-person teams, each working with a local business (or campus unit) that's interested in sustainability, to come with a customized plan that both incorporates more sustainable business practices and helps save the company money.
- Health Challenges in Developing Communities: A student group of 12 works with a local community in a developing country to install a solar water filtration system. While there, they examine the social and technical challenges surrounding its implementation, and, after returning, produce a set of recommendations to help ensure its continued functioning in context.
- Undergraduate Research in Materials: A team of biology and manufacturing/mechanical students field-tests a surface coating for cell phones laced with silver nanoparticles (known antibacterial agents). The group adapts methods from the literature to produce nanoparticles in the lab, apply them to surfaces, and test their effectiveness and efficacy in the field.
- Technology for Counseling: A team of computer science and psychology students collaborate to produce a conceptual design for a smartphone "app" that can helps connect students in crisis to support services, working to balance needs of students with the technical challenges of software design.
- Community STEM Engagement: Parallel teams of students from KF, Wilsonville, and Seattle identify local school districts short in STEM opportunities and propose (possibly even launch) a small-scale "connection" program that brings material from their majors into classrooms, both physically and virtually, using telepresence. Student teams at different sites learn from each others' findings and propose a structure for carrying forward these efforts in a sustainable way.
- Innovation and Entrepreneurship: Teams of students receive coaching and technical assistance from faculty mentors to develop a business plan and go-to-market strategies for their invention. The focus will be on the innovation of products based on emerging technologies that are ready for technology transfer. Teams compete against each other for limited resources in a Shark Tech pitch session.

What are the criteria for an ESSE (a.k.a. unsolved problems):

- How should we "define" an ESSE? Should they be courses with standing numbers? Should they be approved by someone or some body? Common syllabi or unique syllabi?
- How do we define the interdisciplinarity in a way that's meaningful, but not overly restrictive?
- Credit size: How many credit hours should this carry? If so, how much student work does that translate into?
- Timeline: Can we do this meaningfully in a single academic term? Over longer periods? Over shorter periods?
- How much foundational-level knowledge should be/could be pre-requisite? Where do we draw the line between a possible ESSE and a possible disciplinary capstone? (or is it OK if the line is blurry?)
- Faculty support: Could/should they be team-taught? How should key partners outside OIT participate, formally or informally?
- Are there "centers" or nuclei around which Oregon Tech could develop/identify lots of ESSE projects/problems?
- Can this be done in a "classroom" style (~20 students, with regular meetings)?
- Is there other instruction that should happen within/alongside the ESSE? (from humanities, communication, social science, management, or library (information literacy) faculty?)
- How should the learning outcomes (probably including all of the 6 ESLOs) be exhibited/assessed for all students?

- What support is needed to sustain this -- to support faculty in new types of teaching, to cultivate opportunities from outside OIT that present themselves? Does it require new dedicated faculty lines for this (if so, how many), or explicit reassignment of current faculty?
- Are we already doing this (or things like it) in various places in our curricula?

Initial Thoughts on ESSE criteria:

Individual ESSE's are defined and approved by their problem statement -- what challenge does the student team aim to address? These may be ongoing or recurring (and therefore repeatable "seminars") or unique, in response to challenges that arise in a specific time and place.

Addressing these problems must involve interdisciplinary work (work that draws upon multiple domains of inquiry -- social, humanistic, aesthetic, scientific, technical, etc.). Technical knowledge in a particular area (beyond foundation-level courses common to multiple majors) should not be a prerequisite for meaningful effort to tackle the defined problem. ESSEs should allow for cross-disciplinary enrollment.

Academic load:

- For a 3-credit ESSE (treated as "lab" hours), 90 hours of student work are expected, completed within the span of one academic year.
- ESSEs may fit within one academic term, but could also span several terms, or could occur in a shorter span of time (2 weeks).
- Team-mentoring of ESSEs by faculty is to be highly encouraged.

Faculty workload:

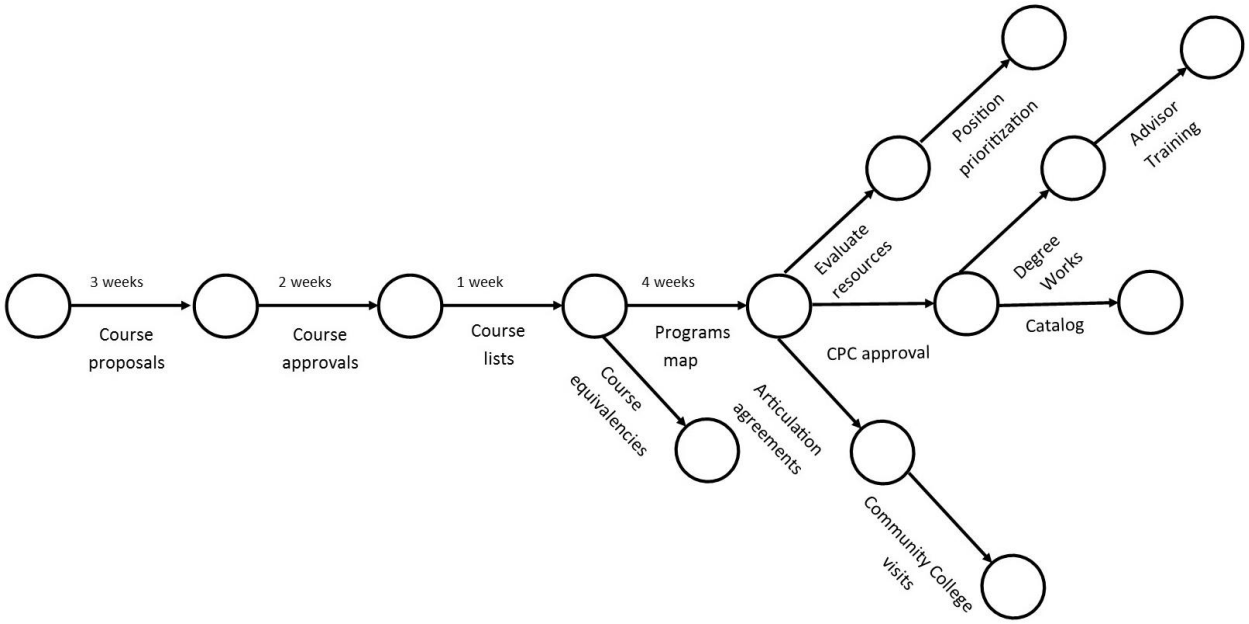
- While some ESSE experiences may be individually-mentored teams of 3-6 students, we anticipate that, for practical many will be larger ("classes" of 15-20, all tackling related problems connected to a common theme), allowing for workload crediting within existing guidelines.

Students' work product (a final report), must exhibit all ESLOs:

- Communication: Work must culminate in both a written and an oral presentation of recommendations or conclusions.
- Inquiry & Analysis - Must involve a clear "problem statement" as part of the course; final report should reflect high practicing/capstone-level Inquiry & Analysis
- Teamwork: Work must be carried out in teams; reflection on teamwork should be part of final report.
- Quantitative Literacy: Effective use of quantitative information must be part of final presentations.
- Ethical Reasoning: Ethical implications and concerns must be explicitly addressed in final paper or in reflections during project.
- Diverse Perspectives: Perspectives of others must be addressed in final paper or in reflections during project.

Appendix M: Implementation Timeline

Critical Path 2016-17



Appendix B

Report of the General Education Advisory Council (GEAC)

June 16, 2017

2016-2017 General Education Advisory Council Report

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June 16, 2017

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General Education Advisory Council Report 2016-2017

Introduction

This report outlines the General Education Advisory Council (GEAC) activities and accomplishments during the 2016-2017 academic year and is based on the recommendations set in the spring 2016 Report of the General Education Review Task Force. This document was prepared by the Director of Academic Excellence, Sandra Bailey, and by the Chair of GEAC, Seth Anthony, and it was reviewed by the General Education Advisory Council, submitted to the Provost, and posted on the Oregon Tech Essential Studies website.

Leadership of the General Education Program

The General Education Advisory Council, the Chair of GEAC, and the Director of Academic Excellence have responsibility and authority to guide general education and the implementation of the new Essential Studies program. Current membership for GEAC is included in Appendix A. The provost oversees the work of GEAC and ensures adequate resources to support the general education program.

The purpose and ongoing charge of the General Education Advisory Council is to define the structure of the Essential Studies Program and oversee its operations. While reporting to and subject to oversight by the provost, the General Education Advisory Council carries out its regular operations with a high degree of autonomy. Responsibilities of GEAC include: maintaining general education requirements and course lists, planning for sufficient general education offerings in all locations and modes of delivery, assessing the general education program and making recommendations for improvements, providing input and support to various groups on matters relating to general education, and providing recommendations to the provost on matters that affect the general education program. Additional information on GEAC can be found in the Mission Statement and Charter included in Appendix B.

The Chair of GEAC, appointed by the provost, provides broad leadership for the general education program, chairs GEAC meetings, and serves as a member of the Academic Excellence Coordinating Committee. The chair and the Director of Academic Excellence work closely together to ensure the viability of the general education program.

The Director of Academic Excellence is responsible for coordination of activities required for the general education program. The director works closely with GEAC and general education departments to administer the general education program. The director also serves as a liaison between GEAC and other campus bodies engaged in work relating to general education.

Communication of General Education Matters
Systematic and broad communication on general education matters is accomplished through the following avenues:

- The director periodically updates the Provost on assessment matters in general.
- The chair provides regular updates to the Academic Excellence Coordinating Committee.
- The chair and director write the annual GEAC report (this report) and ensure that relevant information is shared with appropriate campus bodies.
- Chairs of general education departments meet annually with ESLO Faculty Learning Communities to discuss matters relating to transfer.
- The Office of Academic Excellence maintains the general education website and coordinates messaging to current and potential students through relevant campus bodies.

Coordination with Other Campus Bodies
The director and chair serve on the Academic Excellence Coordinating Committee. This committee coordinates academic continuous improvement efforts between the General Education Advisory Council, the Assessment Commission, and the Commission on College Teaching as defined by the six-year cycle (Appendix C).

The director serves as a liaison with the Advising Coordinator Commission, the Curriculum Planning Commission, Academic Council, the Registrar, Oregon Tech Online, Admissions, and Student Affairs in all matters associated with general education.

Resources in Support of General Education
The director provides funds from the Office of Academic Excellence budget, as well as staff resources to support the work of GEAC including annual professional development for the chair. The provost ensures adequate funding for a sustainable general education program.

Mission, Rationale and Outcomes of the General Education Program
The mission of the Essential Studies Program – Oregon Tech's general education requirements – is to ensure that all Oregon Tech bachelor's degree graduates are provided with experiences that lead to their success at achieving Oregon Tech's university-wide Essential Student Learning Outcomes (ESLOs), in support of our students' success and Oregon Tech's fulfillment of its institutional mission.

Given Oregon Tech's

- applied mission,
- diverse student body composed of traditional and non-traditional, first-year and transfer, first-generation, low-income and legacy students,
- history of rigorous professional preparation,
- established focus on communication,

- teaching-focused faculty,
- innovative programs and general electives,
- established culture of assessment,
- excellent placement rates for graduates,

and

- the rapidly changing nature of technology and the world, and
- the fundamental purpose of a university to educate students both broadly and deeply,

Oregon Tech will ensure that students are equipped not only with the technical ability to influence and succeed in the world through a particular program of study, but that they will apply their skills and knowledge eloquently, responsibly, collaboratively, objectively, considerately, and in broad contexts beyond the major program.

Oregon Tech will provide students with ways to engage in lifelong and professional learning by developing their abilities to effectively

- communicate,
- conduct inquiry and analysis in diverse fields
- practice ethical decision making,
- work with others,
- reason quantitatively, and
- function individually and within diverse global and cultural systems.

In support of these outcomes, Oregon Tech will offer and maintain an Essential Studies program that (as described in the spring 2016 General Education Review Trask Force final report):

- is intentional and scaffolded,
- is developmental with Essential Student Learning Outcomes (ESLOs) supported and demonstrated at the foundation, practicing, synthesis, and capstone levels,
- prepares active and educated citizens with a sense of personal and civic responsibility as well as a professional career,
- provides a broad education in areas outside of the major program allowing for personal growth, broad disciplinary learning, and exploration,
- allows students the freedom to choose from a variety of elective courses,
- includes upper-division coursework that may be required even for transfer students and is intentionally tied to lower division or transfer work,
- provides opportunities for interdisciplinary courses and co-teaching,
- incorporates high-impact practices supported by strong faculty professional development structures,
- uses a curricular design philosophy that ensures that all cognitive levels of Bloom's taxonomy are addressed at each level of achievement (foundational, practice, capstone) but

that the difference between these outcome levels is the amount of scaffolding and instructor support,

- is integrated with major programs with necessary communication and staff supported by the administration and faculty policy, and
- is reviewed and updated on a regular cycle, based on rigorous assessment data.

Assessment of the General Education Program

The assessment of the general education program is based on student achievement in each of the ESLO pathways. Criteria for the ESLOs and rubrics for assessment are included in Appendix D. GEAC provides input to the Assessment Executive Committee in the development of the ESLO assessment plans. The director reports ESLO assessment results as they pertain to general education requirements. GEAC provides analysis and recommendations for changes to general education requirements based on assessment findings. In the sixth year of the cycle GEAC reflects on the ESLO pathway and the effectiveness of the Essential Studies program in supporting student achievement. The ESLOs and the current assessment schedule are shown in Table 1. A description of the six steps appears in Appendix C.

Table 1. Essential Studies Assessment Schedule

		1	2	3	4	5	6
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Communication		Design	Collect	Analyze	Engage	Evaluate	Reflect
Inquiry and Analysis			Design	Collect	Analyze	Engage	Evaluate
Ethical Reasoning				Design	Collect	Analyze	Engage
Teamwork					Design	Collect	Analyze
Quantitative Literacy						Design	Collect
Diverse Perspectives	Design	Collect	Analyze	Engage	Evaluate	Reflect	Design

Summary of 2016-2017 General Education Assessment Activities

Design: Inquiry & Analysis

In 2016-17 an assessment plan for Inquiry and Analysis was designed by the Assessment Commission with input for the Inquiry and Analysis committee. As the initial assessment of this new ESLO, the focus is on testing out the criteria – specifically, how well they can be applied within the context of the discipline. Student work and assessment data will be collected throughout the 2017-18 academic year from a sample of Foundation and Essential Practice courses as well as the Program-Integrated course identified by each program. Full details on the plan are included in Appendix E.

Collect: Communciation

The Office of Academic Excellence coordinated the collection of student work and associated assessment scores by faculty using the Communication rubric. Both oral and written communication was assessed and data is in the process of being collected from 126 sections program courses as well as 17 sections of WRI 121, 122, SPE 111, and WRI227. Aggregate reports will be shared with faculty at the 2017 Convocation for their analysis.

Analyze: Diverse Perspectives

The director wrote a report summarizing the results of the assessment of Diverse Perspectives based on analysis and input from the Diverse Perspectives committee. This assessment did not provide much data as this new ESLO has not yet been integrated into the curriculum, but it did provide a baseline for future assessments. The report includes plans to increase awareness of this new outcome with faculty and students in the "Engage the University" step of the cycle next year. The Diverse Perspectives assessment report including the improvement plan can be found on the Oregon Tech website at www.oit.edu/assessment. The report will be updated with assessment findings following the implementation of the improvements next year (year five, 2018-19, of the cycle).

Summary of 2016-2017 GEAC Activities

Charter:
Consistent with its new and more visible role in supporting a coherent general education program and coordinating activities with assessment, faculty development, ESLO committees, and the Office of Academic Excellence, GEAC drafted and approved a charter outlining its structure and responsibilities. This charter is included as Appendix B.

Course Approval:
During Fall 2016, GEAC activity centered around course approval and support of curriculum mapping. At Convocation, GEAC led a session on the state of implementation and on preliminary concepts for the ESSE (Essential Studies Synthesis Experience) for all faculty, and led a session for general education departments to support their submission of course for approval. (See Appendix F for these materials). GEAC members and representatives of ESLO committees also held a working session early in Fall term to support faculty preparing to submit courses for Essential studies. Faculty, primarily from general education departments, submitted over 70 courses for review by ESLO committees and GEAC.

Submissions continued to be received through Spring 2017, in response to GEAC and ESLO committee discussions about the state of various lists; in Spring 2017, GEAC reviewed and approved the lists of courses in Appendix G, noting additional work still to be done in some areas to fully build out course lists (particularly Communication, Inquiry & Analysis, and Diverse Perspectives).

Curriculum Mapping:
During Fall 2016, GEAC and the Office of Academic Excellence offered programs preliminary course lists and a process to use to smoothly map their curricula to Essential Studies. (See Appendix H for the presented outline of this process.)

This process was shared during meetings with department chairs and program directors during November 2016. Most programs submitted draft maps by the end of Fall 2016; submission from all programs were received by May 2017. Completed submissions are stored in the Essential Studies T:/ drive folder. A summary of programs' first-draft mappings of courses to Essential Studies requirements is included as Appendix I.

Transfer Study:
During Fall 2016, GEAC, in conjunction with the Essential Studies Transfer team, drafted and vetted a set of parameters for a study to gauge and quantify the impact of Essential Studies on transfer students and determine opportunities to mitigate or minimize any adverse impacts.

In short, 90 students representing three populations ("direct from HS" students with transfer credits, traditional transfer students with <90 credits, and traditional transfer students with 90+ credits) were sampled from. The parameters for this study are included as Appendix J.
Their transcripts were pulled and the chair of GEAC, in conjunction with the Office of Academic Excellence, evaluated all of these transcripts under both the old curriculum maps (supported by DegreeWorks information) and the new curriculum maps. The findings of this study were reported to the university community in June 2017, and are included as Appendix K.

As part of this process, ESLO committees and department chairs reviewed a substantial number of transfer courses for alignment with the new Essential Studies outcomes to determine where these courses might apply in the Essential Studies. Some of the policy implication of this work are discussed in the next section.

Responses to Policy Questions:
In response to reflections and questions offered by programs during curriculum mapping, questions raised and posed during evaluation of transfer courses, and the final results of the transfer impact study, GEAC considered a number of policy questions surrounding technical details of the Essential Studies model implementation. These questions surrounded topics including:

- course numbering and prerequisite requirements,
- processes for clearly recognizing transfer courses,
- policies concerning "grandfathering" of transfer students, and
- questions particularly pertaining to each outcome pathway.

GEAC's recommendations (along with identification of some additional areas to be explored further) are included as Appendix L.

Interstate Passport:
During the 2016-2017 academic year, a team of faculty (supported in part by a small grant from the Oregon Higher Education Coordinating Commission) explored the Interstate Passport, an outcomes-based tool designed to facilitate student transfer, particularly between community colleges and four-year institutions. A first draft of how Oregon Tech courses could fulfill Interstate Passport requirements and how Interstate Passport could be applied to the Essential Studies model was vetted by this group and by GEAC, and is included as Appendix M.

Essential Studies Synthesis Experience:
A subcommittee of faculty (Terri Torres, Kristy Weidman, Aaron Scher, Aja Bettencourt-McCarthy, Matt Schnackenberg, Anne Marie Reichmann) were identified to help better define and pilot the Essential Studies Synthesis Experience (ESSE) beginning in summer 2016. During the 2016-2017 academic year, this team:

- Sent six faculty to Worcester Polytechnic Institute's Institute on Project-Based Learning in Summer 2017.
- Developed a draft definition for the ESSE and presented to the university at Convocation; developed a pilot ESSE proposal and approval process. (These materials are included as Appendix N).
- Developed two ESSE proposals and piloted the Catalyze Klamath ESSE.
- Solicited and reviewed breakeven and enrollment data from the VP of Finance and Director of IR. Based on this input the group feels confident about the continued feasibility of the ESSE model.
- Based on the feedback from the pilot this year, the group projects a need to pilot at least two ESSEs per term beginning winter term 2018, followed by at least three per term in the 2018-19 academic year. This plan should meet the projected demand for the fall 2018 implementation of Essential Studies based on enrollment projections and the grandfathering clause for transfer students.
- Secured funds to send faculty to Stanford d.school workshop in July 2017, with the goal of incorporating design thinking into the ESSE model.
- Planned a meeting with Provost Kuleck in August 2017 to collaborate on a plan for the 2017-18 ESSE pilot, faculty workload model, and other logistics to support full implementation.
- Planned an Excellence in Teaching Conference one-hour session on design thinking to be run by the Stanford workshop team. This will be followed by a half-hour ESSE pilot session providing information for faculty who might be interested in learning more and potentially developing an ESSE.

Conclusion and Plans for 2017-2018 Academic Year

Substantial progress has been made during the 2016-2017 Academic Year to turn the model articulated by the General Education Review Task Force into a reality. Major tasks for the upcoming year surround further refinements and technical clarifications to model policies, implementation in curriculum maps, and communication of Essential Studies requirements and opportunities. Further detail and clarity will be added to this plan on collaboration with new leadership, particularly the new Provost:

Summer 2017:

- Thorough review by the Office of Academic Excellence of curriculum maps to check that programs faithfully and fully followed mapping discussions, have identified efficiencies, and that any constraints which might result in credit hour adds are clearly identified. Follow-up discussions on this with department chairs will occur over the summer, leading to conversations with program faculty in Fall 2017..
- Resource study, coordinated by the Office of Academic Excellence, in conjunction with Finance and SEM units, to determine current and needed capacity across sites and modes to teach courses required under the Essential Studies model.
- The Office of Academic Excellence works with CPC, ITS, and Registrar's Office to refine an electronic system for curriculum map submission that aligns with new catalog software and processes.
- Identification (with department chairs) of courses that need to be submitted to complete courses lists.
- ESSE Team works with Provost to develop a model for refinement and scale-up of ESSE.

Fall 2017:

- Review by GEAC of data obtained in Summer 2017 studies.
- Finalize course lists (review, supported by ESLO faculty learning communities, of courses submitted during summer and early fall 2017).
- Finalize remaining model policies (particularly outstanding matters identified in Appendix L).
- Revise and test policies and flowcharts for identifying transfer courses with general education department chair and the Registrar's Office.
- Begin transition of ESLO committees towards ESLO faculty learning communities. (Some will still have substantial "service" work to complete course lists; others will be primarily oriented towards supporting faculty professional development in their outcome area.)
- Finalization of process for approval of program-integrated practice courses. (One idea that has been discussed centers around using assignment-design workshops to identify, vet, and improve course assignments that qualify a course as meeting program-integrated practice requirements. Such workshops are a prime example of an opportunity for GEAC activity to

align with faculty development and course improvement and support assessment activiy as well).

- Programs begin submitting revised curriculum maps for CPC approval.
- Collaborate with Marketing in development of messaging/communication plan for internal and external parties. Consult with entities involved with communicating Essential Studies to others on materials and concerns: admissions, academic agreements, the ROCK, advising coordinators commission (including involvement with Winter term Advisor Training).

Winter 2018:

- Begin to run multiple pilot ESSEs.
- Finalize policies and practices for identification of transfer courses.
- Begin plan for revision of articulation agreements and development of materials for community college/transfer students, in coordination with a "community college campaign" and in collaboration with relevant university units (SEM, Academic Agreemetns, etc.) Update and review transfer websites.
- Conclude review of revised curriculum maps.

Spring 2018:

- Begin revision of transfer database, including stipending faculty or department chairs into summer to carry out needed reviews (Essential Studies not mandated for transfers until 3 years after hitting catalog.)
- Assist Registrar's Office in buildout of DegreeWorks curriculum maps.

Appendix A

General Education Advisory Council Membership
2016-2017

Membership of the committee is determined by the provost, based on recommendations of the Academic Excellence Coordinating Committee.

The committee is composed of

- representatives of each ESLO committee,
- the Director of Academic Excellence,
- a representative from the Faculty Senate Academic Standards Committee, and
- other members as needed to ensure adequate representation.

The committee shall include representation from all Oregon Tech colleges and primary campuses. The provost shall appoint one faculty member to serve as chair.

- Seth Anthony, Chair, Natural Sciences, HAS
- Matthew Sleep, Civil Engineering, ETM, Inquiry and Analysis ESLO
- Marilyn Dyrud, Communication, HAS
- Yanqing Gao, Manufacturing Engineering Technology, ETM
- Ben Bunting, Humanities and Social Sciences, HAS, Diverse Perspectives ESLO
- Kevin Brown, Communication, HAS, Teamwork ESLO
- Yasha Rohwer, Humanities and Social Sciences, HAS, Ethical Reasoning ESLO
- Randall Paul, Mathematics, HAS, Quantitative Literacy ESLO
- Terri Torres, Mathematics, HAS, Quantitative Literacy ESLO
- Hui-Yun Li, Natural Sciences, HAS, Inquiry and Analysis ESLO
- Matt Search, Communication, HAS, Communication ESLO
- Ryan Madden, Humanities and Social Sciences, HAS, Inquiry and Analysis ESLO
- Chris Caster, Medical Imaging Technology, HAS, Academic Standards
- Sandra Bailey, Director of Academic Excellence
- LeAnn Maupin, HAS Dean

Appendix B

Mission Statement and Charter for the General Education Advisory Council

(endorsed by GEAC 27 April 2017)

Mission

The mission of the Essential Studies Program – Oregon Tech's general education requirements – is to ensure that all Oregon Tech bachelor's degree graduates are provided with experiences that lead to their success at achieving Oregon Tech's university-wide Essential Student Learning Outcomes (ESLOs), in support of our students' success and Oregon Tech's fulfillment of its institutional mission.

The purpose and ongoing charge of the General Education Advisory Council is to define the structure of the Essential Studies Program and oversee its operations, recommending changes as necessary, and reporting to the provost, who supports the work of the committee and ensures adequate resources are provided to sustain the Essential Studies Program.

Charter

Membership:
Membership of the committee is determined by the provost, based on recommendations of the Academic Excellence Coordinating Committee.

The committee is composed of

- representatives of each ESLO committee,
- the Director of Academic Excellence,
- a representative from the Faculty Senate Academic Standards Committee, and
- other members as needed to ensure adequate representation.

The committee shall include representation from all Oregon Tech colleges and primary campuses. The provost shall appoint one faculty member to serve as chair.

Terms of Service:
For purposes of continuity, the chair of the General Education Advisory Council serves a three-year term and may be reappointed. Faculty members shall serve on the General Education Advisory Council for terms of three years and may be reappointed. A vice chair or co-chair may be appointed from the membership of GEAC to support continuity of leadership, particularly during the last year of a chair's term.

Duties:

General Education Advisory Council (GEAC): While reporting to and subject to oversight by the provost, the General Education Advisory Council carries out its regular operations with a high degree of autonomy. The specific responsibilities of the General Education Advisory Council are to~~:~~

- Define the structure and requirements of the Essential Studies Program, making adjustments as necessary based on data collected in the assessment process and provided by other sources.
- Establish and maintain criteria for Essential Studies courses, including ESLO-specific criteria reviewed by ESLO committees.
- Manage lists of approved courses to meet Essential Studies requirements; provide formal approval of courses tagged for ESLO requirements, as reviewed by ESLO committees.
- In conjunction with the provost, plan for sufficient offerings to meet Essential Studies requirements in all locations and modes of delivery; make recommendations to administration regarding support of the Essential Studies Program.
- Write an annual program assessment report for the Essential Studies Program, reflecting assessment work done related to each ESLO at its respective phase of the continuous improvement cycle and making any recommendations for program improvements or changes
- In conjunction with the Assessment Commission, conduct a review of the effectiveness of the Essential Studies Program and its alignment with institutional goals, at least once every six years at the conclusion of each six-year ESLO assessment cycle, and as necessary in conjunction with institutional accreditation cycles.
- In conjunction with the Commission on College Teaching, annually review assessment results and make recommendations for faculty development activities.
- In conjunction with the Advising Commission and Director of Academic Excellence, ~~develop~~ provide support for development of advising materials for distribution to academic advisors.
- Provide training and support to department chairs on course criteria, including criteria for evaluation of transfer courses.
- Coordinate with the Assessment Commission, Commission on College Teaching, Oregon Tech Online, and Advising Commission on other matters of common interest.
- Work with ESLO Committees to implement the six-year continuous improvement cycle specifically regarding deliverables relating to the Essential Studies Program.
- Report and make specific recommendations to the provost concerning matters that affect the Essential Studies Program.

ESLO Faculty Learning Communities: The faculty learning communities for each ESLO support the General Education Advisory Council by:

- Providing input on criteria to satisfy ESLOs at foundation, practice and capstone levels; criteria for course approval are drafted by ESLO committees and reviewed by-GEAC.
- As requested by GEAC, conducting initial review of courses submitted as satisfying Essential Studies criteria; or reviewing courses when outcomes or content change substantially.
- Working with department chairs to provide support and dialogue on evaluation of transfer equivalencies as requested.
- Recommending changes to maintain or improve the Essential Studies model and its governance or support structures.

Meetings

The General Education Advisory Council will meet regularly throughout the academic year as needed but no less than twice per academic term.

Annual Reports

The General Education Advisory Council will prepare the annual programmatic assessment report for the Essential Studies Program summarizing its activities for the most recent academic year. The report is submitted to the Assessment Commission Executive Committee, Academic Council, and the provost. This report will include the activities of each of the ESLO subcommittees in the current year, thereby reporting on each phase of the cycle.

Amending the Charter

The General Education Advisory Council may modify its charter in consultation with the provost. Proposals for changes to the charter shall be delivered to the chair, who negotiates suggested changes with the committee and appropriate administrative bodies. The chair forwards consensus requests to the provost for approval. In case of lack of consensus, the chair forwards competing proposals to the provost for consideration.

Appendix C

Six-Year Cycle of Improvement

Year 1: Design Assessment
The Assessment Executive Committee develops the Essential Student Learning Outcome (ESLO) assessment plan based on input from the Commission on College Teaching (CCT), the General Education Advisory Council (GEAC) and the appropriate ESLO Faculty Learning Community identifying research questions targeting various levels of proficiency. The following tasks should be considered in developing the plan: review ESLO criteria, review ESLO mapping to the curriculum, develop or review rubrics, identify the potential need for professional development prior to assessment, develop signature assignments, and review past assessment reports. The plan will include appropriate benchmarks for student attainment at various levels.

Year 2: Collect Data
The Office of Academic Excellence coordinates the collection of data and student work as defined in the assessment plan using the assessment management system. A summary of the data collection and the aggregate results will be provided to the Assessment Executive Committee, CCT, GEAC and the appropriate ESLO Faculty Learning Community for analysis in year three.

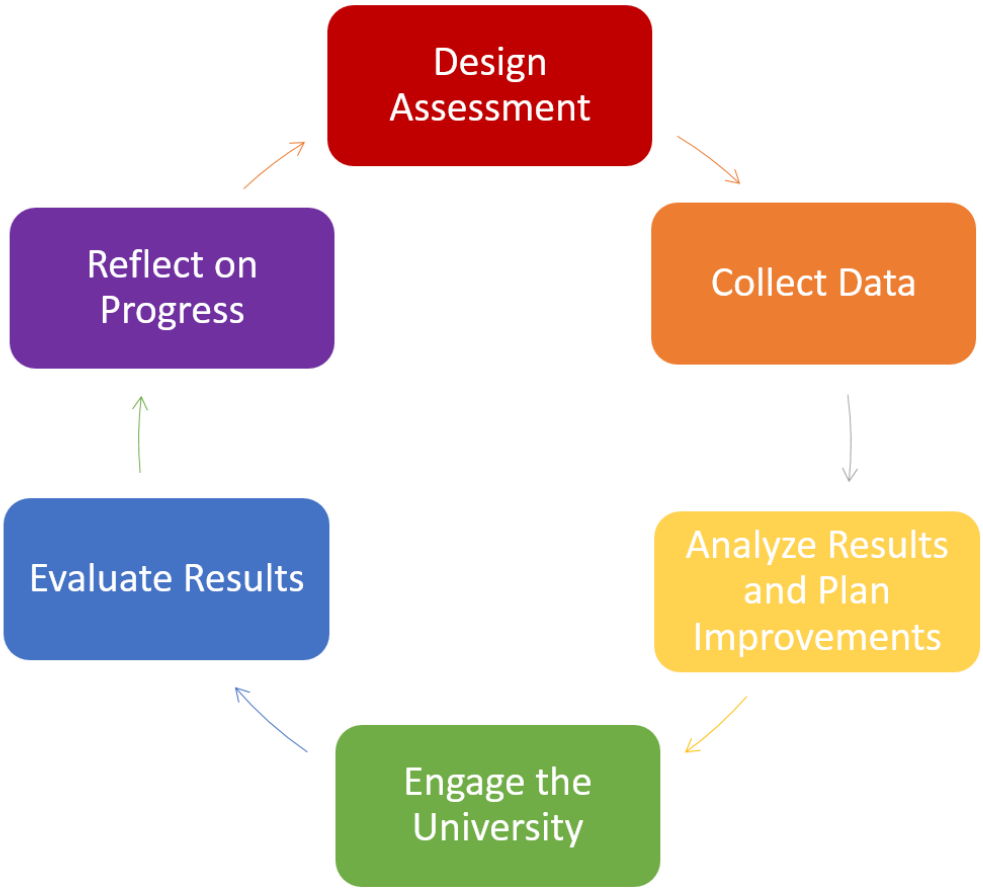
Year 3: Analyze Results and Plan Improve
In variety of settings (including Convocation) university faculty will analyze assessment results and identify potential changes for continuous improvement considering both curricular changes and professional development. Based on this input the Academic Excellence Coordinating Committee will create an action plan for improvement. Action items relating to curriculum including recommendations for curricular change, adjustments to ESLO criteria and/or rubrics, and changes to course approval processes will be submitted to GEAC for implementation with the appropriate bodies. CCT will design professional development to be implemented in year four based on the action plan for improvement considering ways to engage the university community including faculty, staff and students. CCT will engage the appropriate ESLO Faculty Learning Community to research best practices and opportunities to collaborate with other institutions. Assessment Exec will include the results, analysis and action plan in an initial report for the ESLO.

Year 4: Engage the University
The Commission on College Teaching and the ESLO Faculty Learning Community will launch the university-wide focus on outcome through professional development based on plan for improvement engaging faculty, staff and students. The Commission on College Teaching will provide a summary of professional development activities.

Year 5: Evaluate Results
The Office of Academic Excellence will collect data from targeted areas of weakness identified in the year-three report. The Academic Excellence Coordinating Committee will analyze the results and report areas of improvement and/or recommendations for additional actions to appropriate bodies. Assessment Exec will update the ESLO report with findings and further actions.

Year 6: Reflect on Progress
The Academic Excellence Coordinating Committee will reflect on improvements and consider innovative options for increasing success of all students. Activities could include: mapping outcome and criteria to state and national frameworks, comparing results to state and national benchmarks, looking at innovative teaching and assessment practices at other institutions, exploring possibilities for collaborations and involvement in state and national projects, seeking opportunities for grant funding to support plans for innovation. GEAC will reflect on the ESLO pathway and the effectiveness of the Essential Studies program in supporting student achievement. Assessment Exec will include the reflection (changes resulting from assessment) in the final ESLO report along with recommendations regarding the assessment plan for the next 6-year cycle.

Continuous Improvement Cycle



Six-Year ESLO Cycle

		1	2	3	4	5	6
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Communication		**Design**	**Collect**	**Analyze**	**Engage**	**Evaluate**	**Reflect**
Inquiry and Analysis			**Design**	**Collect**	**Analyze**	**Engage**	**Evaluate**
Ethical Reasoning				**Design**	**Collect**	**Analyze**	**Engage**
Teamwork					**Design**	**Collect**	**Analyze**
Quantitative Literacy						**Design**	**Collect**
Diverse Perspectives	**Design**	**Collect**	**Analyze**	**Engage**	**Evaluate**	**Reflect**	**Design**

Assessment Reporting for the Essentials Studies Program

Annual Assessment Report

The General Education Advisory Council (GEAC) will prepare an annual assessment report of the Essential Studies program for submission to the Assessment Executive Committee, Academic Council and the Provost. This report will include the activities of each of the six ESLO subcommittees in the current year, therefore reporting on each of the six phases of the cycle. The Essential Studies Annual Assessment report will be shared with the university community and posted to the assessment website.

I. Introduction
   Leadership of the Essential Studies program
   Communication of the Essential Studies program to students, faculty, advisors, potential students, etc.
   Coordination with other campus bodies: Assessment Commission, Commission on College Teaching, Advising commission, Academic Council, the Registrar, Curriculum Planning Commission, Oregon Tech Online, Admissions, Student Affairs, etc.
   Resources to support the Essential Studies program

II. Purpose, objectives and outcomes of the Essential Studies program
   List purpose, objectives, and outcomes, summarize reviews, note changes and justification

III. Summary of activities of GEAC for the year

IV. Summary of current year activities relating to Six-year cycle of improvement
   Assessment Plan: assessment plan for ESLO to be assessed in coming academic year
   Evidence of student learning: Summary of data collection and aggregated results of ESLO assessed in current year

Program improvements: Action plan based on analysis of year-two results
Faculty professional development: Description of professional development activities related to ESLO highlighted in current year
Evidence of improvement: Aggregated results and analysis following implementation of action plan in past year
Changes resulting from assessment: Reflection on improvements as a result of assessment cycle

V. Conclusion
Summary of work for the academic year, significant findings, recommendations for program changes, etc.

VI. Appendices
ESLO course matrices
Rubrics
Signature assignments

ESLO Report

The Assessment Executive Committee will prepare an initial report for each ESLO in year-three and update in year-five and at the conclusion of the six-year cycle. This report will combine the information included in the Essential Studies program report for one ESLO over a six-year period of time. Reports will be submitted to the Academic Council, the Provost, and posted on the assessment website.

I. Executive Summary
II. Outcome, definition and criteria for assessment
List outcome statement, definition, and criteria for assessment
Summarize reviews, note changes and justification
III. Six-year cycle of assessment of the ESLO
IV. Assessment Plan
V. Evidence of student learning
Description of assessment including data collection and scoring
Assessment results and analysis
VI. Changes resulting from assessment
Program improvements implemented
Description of professional development activities related to ESLO
Evidence of improvement; results and analysis following implementation of actions
VII. Reflection on progress
Reflection on improvements and plans for innovation looking to next six-year cycle
VIII. Assessment Reporting
Description of university-wide communications and coordination with other campus bodies in relation to the six-year cycle
IX. Appendices
ESLO course matrices
Rubrics
Signature assignments
Faculty reflections
Membership of ESLO Faculty Learning Community over the past 6 years

Appendix D

Oregon Tech's Essential Student Learning Outcomes

Oregon Tech's Essential Student Learning Outcomes (ESLOs) support Oregon Tech's institutional mission and core themes. The outcomes and associated criteria reflect the rigorous applied nature of Oregon Tech's degree programs.

The ESLOs reflect the common expectations about the knowledge, skills, and abilities that Oregon Tech students will acquire and are reflected in the General Education requirements that lay the foundation upon which the major curricula build. Engaging in these ESLOs will support Oregon Tech graduates in developing the habits of mind and behaviors of professionals and lifelong learners.

COMMUNICATION

ESLO 1: Oregon Tech students will communicate effectively orally and in writing.

Definition. Communication is the creation, development, and expression of ideas. The Communication ESLO differentiates between oral and written communication. The two forms of communication operate much the same but differ in the criterion *Style & Conventions* because of their differing forms of expression. Both forms of communication involve purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in attitudes, values, beliefs, or behaviors.

Criteria. The following are criteria used in the assessment of student work:

- Purpose & Audience: Identify a specific purpose, such as inform, persuade, or analyze, and utilize or create content appropriate to audience.
- Focus & Organization: Focus and organize content on a specific and appropriate organizing element: a thesis statement, purpose statement, or theme.
- Support & Documentation: Support claims with appropriate, relevant, and specific evidence, whether drawn from disciplinary knowledge, careful reasoning, or credible research, using the correct disciplinary approach to academic citation.
- Style & Conventions: Deliver content in spoken, written, or visual forms and media with professional and masterful content and form as appropriate to context.
- Visual: Employ and interpret high-quality visuals to illustrate, contribute to, or develop content.

- Justification: Articulate a clear rationale for communication choices, self-assess the quality of work, and elicit and use feedback to improve work.[1]

INQUIRY AND ANALYSIS

ESLO 2: Oregon Tech students will engage in a process of inquiry and analysis.

Definition. Inquiry and analysis consists of posing meaningful questions about situations and systems, gathering and evaluating relevant evidence, and articulating how that evidence justifies decisions and contributes to students' understanding of how the world works.

Criteria. The following are criteria used in the assessment of student work:

- Identify: Identify a meaningful question or topic of inquiry.
- Investigate: Critically examine existing knowledge and views on the question or topic of inquiry.
- Support: Collect evidence based on the methodology or principles of the disciplines.
- Evaluate: Critically analyze and distinguish evidence obtained.
- Conclude: Come to a judgement based on evidence and understand the limitations and implications of that judgement.

ETHICAL REASONING

ESLO 3: Oregon Tech students will make and defend reasonable ethical judgments.

Definition. Ethical reasoning is the process of recognizing which decisions require ethical judgments, determining potential reasonable courses of action, finding support for potential courses of action, and then selecting the course of action best supported.

Criteria. The following are criteria used in the assessment of student work:

- Theory: Demonstrate knowledge of different ethical theories and codes.
- Recognition: Recognize decisions requiring ethical judgements.
- Logic: Demonstrate knowledge of the logic of ethical reasoning.
- Judgment: Make and support plausible ethical decisions.

[1] This may be a separate assignment from the written or oral assignment used to assess the other criteria; this justification piece will ask the students to reflect on the deliberate choices they made during the composition process. While this is most often an implicit process, it will be made explicit for the purpose of assessment of at least one piece of written or oral communication.

TEAMWORK

ESLO 4: Oregon Tech students will collaborate effectively in teams or groups.

Definition. Teamwork encompasses the ability to accomplish group tasks and resolve conflict within groups and teams while maintaining and building positive relationships within these groups. Team members should participate in productive roles and provide leadership to enable an interdependent group to function effectively.

Criteria. The following are criteria used in the assessment of student work:

- Identify & Achieve Goal/Purpose: Share common goals and purpose.
- Assume Roles & Responsibilities: Fulfill roles and responsibilities, including leadership roles, which are clearly defined and shared. Members are motivated to complete work in a timely manner and provide leadership in meetings.
- Communicate Effectively: Communicate openly and respectfully, listen to ideas, and support and encourage each other.
- Reconcile Disagreement: Welcome disagreement and use difference to improve decisions.
- Contribute Appropriately: Contribute to discussions, decision-making, and work. The work product is a collective effort.
- Develop Strategies for Effective Action: Use effective decision making processes to decide on action, share expectations for outcomes, and reach consensus on decisions.
- Adjust for Differences: Recognize and adapt to differences in background and communication style.

QUANTITATIVE LITERACY

ESLO 5: Oregon Tech students will demonstrate quantitative literacy.

Definition. Quantitative literacy comprises the ability to appropriately extract, interpret, evaluate, construct, communicate, and apply quantitative information (e.g., equations, graphs, diagrams, tables, prose) and methods to solve problems, evaluate claims, and support decisions in students' everyday professional, civic, and personal lives.

Criteria. The following are criteria used in the assessment of student work:

- Calculate: Perform mathematical calculations correctly and evaluate/confirm that they have done so.
- Interpret: Extract and interpret quantitative information presented in various commonly used forms.

- Construct Representations: Convert relevant quantitative information and data into different forms as appropriate.
- Apply in Context: Apply appropriate quantitative methods, draw justified conclusions, evaluate claims, and make decisions based on quantitative information. Make and evaluate key assumptions in estimation, modeling, and data analysis.
- Communicate: In writing and (where appropriate) in speaking, effectively communicate accurate quantitative information in support of conclusions. In doing so, use representations of quantitative evidence appropriate to both audiences and purpose.

DIVERSE PERSPECTIVES

ESLO 6: Oregon Tech students will explore diverse perspectives.

Definition. Recognition of diverse perspectives requires the self-awareness, intellectual flexibility, and broad knowledge that enables perception of the world through the eyes of others.[2] This includes but is not limited to the awareness and understanding of the customs, practices, methodologies, and viewpoints of varied cultures, individuals, and identities.

Criteria. The following are criteria used in the assessment of student work:

- Recognize: Show awareness of one's own perspectives.
- Know: Demonstrate factual knowledge of the foundations of diverse perspectives.
- Understand: Display understanding and awareness of others' perspectives.
- Apply: Integrate factual knowledge and understanding of diverse perspectives to their interactions with others.

[2] i.e., from the perspectives of diverse cultures and personalities, with consideration of varied places, histories, and technologies.

ESLO 1 Communication:

Oregon Tech students will communicate effectively orally and in writing.

Definition

Communication is the creation, development, and expression of ideas. The Communication ESLO differentiates between oral and written communication. The two forms of communication operate much the same but differ in the criterion Style and Delivery because of their differing forms of expression. Both forms of communication involve purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in attitudes, values, beliefs, or behaviors.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements.*	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements.*
Purpose and Audience	• Content serves a specific, identifiable purpose (e.g., inform, persuade, analyze). • Purpose and content are appropriate to the needs of a specific, identifiable, and appropriate audience. • Content is tailored to the level of expertise, authority, and values of the audience. • Communication medium (essay, memo, report, speech, etc.) matches purpose and audience.	Examples: • Purpose may be inferred, but is not clearly stated • Minor changes in approach or medium would make the work more meaningful or useful to the intended audience. • Some content is too advanced/basic for the intended audience.		Examples: • Purpose is unclear, or requires substantial inference from the audience. • Intended audience is unclear or overly broad. • The work would not be meaningful or useful to the intended audience. • The work omits or dismisses key audience concerns.
Focus and Organization	• Content is focused on a specific and appropriate organizing element: a thesis statement, purpose statement, or theme. • Content is organized so that ideas relate clearly to each other and to the organizing element. • Distinctions between major and minor claims are clear, providing consistent focus in content. • Transition language (and other organizing elements, such as headings or lists) throughout organizes ideas and guides audience understanding.	Examples: • Organizing element is present, but needs development (it is too broad, narrow, or trivial). • Minor gaps in organization detract from the effectiveness of the work. • Minor changes in organization would clarify the hierarchy of claims and information. • Minor changes in transition language would improve the work (transitions between key ideas are choppy or abrupt).		Examples: • Organizing element is underdeveloped, inconsistent, or missing. • Order and structure are unclear. • Digressions compromise or obscure the work's purpose. • Transitional elements are underdeveloped, inconsistent, or missing.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements.*	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements.*
Support and Documentation	• Claims are consistently supported with appropriate, relevant, and specific evidence, whether drawn from disciplinary knowledge, careful reasoning, or credible research. • Evidence derived from sources supports and develops original content. • Source material is credible; it is introduced and interpreted to provide context. • Source material is documented accurately according to the appropriate conventions (academic citation style or disciplinary approach).	Examples: • The work includes few instances of claims unsupported by appropriate evidence. • Additional or more carefully chosen details would improve the work. • The work includes (but does not rely on) evidence that lacks rigor, based on the audience's or discipline's standards. • Additional context or discussion of credentials for sources of evidence would add value to the work. • The work contains few, minor documentation errors (according to academic citation style or disciplinary approach).		Examples: • The work includes frequent instances of unsupported claims or key missing details. • The work relies on evidence that lacks rigor, based on the audience's or discipline's standards. • The work relies on demonstrably biased evidence (without providing appropriate context or qualification of that evidence). • The work treats sources with bias, or demonstrates incomplete understanding of source material. • The work does not meet academic citation or disciplinary standards.
Style and Conventions	• Students deliver content in spoken, written, or visual forms and media, as appropriate to context. • Use of language (terminology and word choice, sentence structure, etc.) is clear and professional, demonstrating mastery of content and form. • In written form, students demonstrate correct grammar, spelling, syntax, usage, and mechanics. • In oral form, both verbal and nonverbal delivery demonstrate poise, preparation, mastery of material and audience awareness/ engagement.	Examples: • (Where students have a choice in form or medium) a minor change in form or medium would make the work more accessible or engaging to the audience. • Minor changes in terminology, word choice, sentence structure, or tone would improve the work. • Written: the work contains minor, isolated errors in spelling, grammar, syntax, usage, and/or mechanics; an editing pass would improve the work. • Oral: the work contains minor, isolated issues in verbal and/or non-verbal delivery; additional preparation or practice would improve the work.		Examples: • (Where students have a choice in form or medium) the choice or form or medium is inappropriate to audience, purpose, or context. • Terminology, word choice, sentence structure, or tone are not in keeping with professional or academic expectations for the work. • Written: prevalent or distracting spelling, grammar, syntax, usage, and/or mechanics errors compromise the work's impact, credibility, or coherence. • Oral: prevalent or distracting verbal and/or non-verbal delivery issues compromise the work's impact, credibility, or coherence.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements.*	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements.*
Visual Communication (where appropriate)	As appropriate to purpose and audience: • High quality visuals are employed to illustrate, contribute to, or develop content, and not for purely aesthetic appeal. • All visuals are appropriately introduced and interpreted. • All visuals are documented according to the appropriate conventions (academic citation style or disciplinary approach).	Examples: • Minor changes in content, organization, or appearance would enhance the visuals in the work. • Additional or more carefully-chosen visuals would improve the work. • Some (but a minority of) visuals in the work serve a purely aesthetic purpose, and relate only tangentially to the work's purpose and content. • Additional context and interpretation of visuals would improve the work. • The work contains few, minor documentation errors of visuals, or the information presented in visual format (according to academic citation style or disciplinary approach).		Examples: • The work includes any visuals that are inappropriate to audience or context. • Necessary visuals are missing from the work. • Most (or all) visuals in the work serve a purely aesthetic purpose, and relate only tangentially to the work's purpose and content. • The work presents most (or all) visuals without context or interpretation. • The work presents most (or all) visuals without documentation (according to academic citation style or disciplinary approach).
Justification (Self-Assessment)	Students: • Articulate a clear rationale for communication choices (purpose and audience, focus and organization, support and documentation, style and conventions, and visual communication). • Self-assess the quality of their work (including process and product). • Elicit and effectively use feedback to improve their work.	Examples: • Student omits evaluation of one ESLO criterion. • Student's self-evaluation would be improved by a more rigorous analysis. • Student's self-evaluation addresses only process, or only product, but does not address both. • A more rigorous approach to eliciting and using feedback would improve the work.		Examples: • Student omits discussion of multiple ESLO criteria. • Student's self-evaluation is cursory, facile, or is compromised by lack of insight (student overlooks obvious deficiencies in the work). • Student demonstrates an inability or unwillingness to elicit or use feedback to improve the work.

ESLO 2 Inquiry & Analysis:

Oregon Tech students will engage in a process of inquiry and analysis.

Definition

Inquiry and analysis consists of posing meaningful questions about situations and systems, gathering and evaluating relevant evidence, and articulating how that evidence justifies decisions and contributes to students' understanding of how the world works.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements*.	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements*.
Identify	Identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less-explored aspects of the subject.	Identifies a focused and manageable topic that appropriately addresses relevant aspects of the subject.	Identifies a topic that, while manageable, is too narrowly focused and leaves out relevant aspects of the subject.	Identifies a topic that is too general and wide-ranging to be manageable.
Investigate	Clearly states, comprehensively describes, and synthesizes in-depth information from relevant high-quality sources representing various approaches and points of view.	States, comprehensively describes, and presents in-depth information from relevant high-quality sources representing various approaches and points of view.	Presents information from relevant sources representing a limited set of approaches or points of view, but descriptions leave some terms undefined or ambiguities unexplored.	Presents information from irrelevant sources representing a limited set of approaches or points of view, or states information without clarification or description.
Support	All elements of the methodology or theoretical framework are skillfully developed. (Appropriate methodology or theoretical frameworks may be synthesized from across disciplines.)	Critical elements of the methodology of theoretical framework are appropriately developed. However, more subtle elements are ignored.	Critical elements of the methodology of theoretical framework are missing, incorrectly developed, or unfocused.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework.
Evaluate	Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to subject focus.	Organizes evidence to reveal important patterns, differences, or similarities related to subject focus.	Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities.	Lists evidence, the evidence presented is not organized or it is unrelated to the subject focus.
Conclude	States an eloquently supported conclusion that is a logical extrapolation of the inquiry, reflecting the student's informed evaluation and ability to place substantial evidence and perspectives in priority order.	States a conclusion focused solely on the inquiry findings, arising specifically from and responding specifically to the inquiry findings.	States a general conclusion beyond the scope of the inquiry, the support for which is inadequate, or information was chosen to fit the conclusion.	States an ambiguous, illogical, or fallacious conclusion that is inconsistently tied to the inquiry findings.

ESLO 3 Ethical Reasoning:
Oregon Tech Students will make and defend reasonable ethical judgements.

Definition: Ethical reasoning is the process of recognizing which decisions require ethical judgements, determining potential reasonable courses of action, finding support for potential courses of action, and then selecting the course of action best supported.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements.*	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements.*
Theory: Student demonstrates knowledge of different ethical theories and codes.	The student demonstrates a developed knowledge of different ethical theories and codes and can justify their preferred theory or code.	The student demonstrates a developed knowledge of different ethical theories and codes.	The student demonstrates a basic knowledge of different ethical theories or a code. Student understands the difference between ethics and law.	The student has no knowledge of different ethical theories and codes. Student confuses legal and moral codes.
Recognition: Student can recognize decisions requiring ethical judgments.	The student is able to successfully recognize decisions requiring ethical judgments without prompting and can clearly explain why it requires ethical reasoning to others.	The student is able to successfully recognize decisions requiring ethical judgments without prompting.	The student is able to recognize decisions requiring ethical judgments with prompting.	The student is unable to recognize decisions requiring ethical judgments.
Logic: Student demonstrates knowledge of the logic of ethical reasoning.	The student can formulate and test plausible moral principles* and apply them to a case to derive a course of action.	The student can formulate basic moral principles* and apply them to a case to derive a course of action.	The student can take an existing moral principle* (possibly from a code of ethics) and apply it to a case to derive a course of action.	The student has no knowledge of the logic of ethical reasoning.
Judgment: Student can make and support plausible ethical decisions.	The student is able to apply ethical reasoning to novel situations and provide detailed support for their decisions, as well as refuting other possible decisions.	The student is able to make plausible ethical decisions and support them at a competent level. At this level, the student begins to generalize their reasoning to similar situations.	The student is able to make plausible ethical decisions, but their support may be rudimentary or underdeveloped.	The student is unable to make and support plausible ethical decisions.

ESLO 4 Teamwork:
Oregon Tech students will collaborate effectively in teams or groups.

Definition
Teamwork encompasses the ability to accomplish group tasks and resolve conflict within groups and teams while maintain and building positive relationships within these groups. Team members should participate in productive roles and provide leadership to enable an interdependent group to function effectively.

Performance Criteria	Capstone Level (4) The following are achieved *without prompting* from instructor:	Practice Level (3)	Foundation Level (2)	Pre-Foundation Level (1)	Pre-Foundation Level (0)
Identify and achieve goal/purpose	• When appropriate, realistic, prioritized and measurable goals are agreed upon and documented. • All team members share the common objectives/purpose. • Team achieves goal.	• When appropriate, realistic, prioritized and measurable goals are agreed upon and documented. • All team members share the common objectives/purpose. • Team achieves goal.	• Group shares common goals and purpose. • Few priorities are unrealistic or undocumented. • Group achieves goal.	• Individuals share some goals but a common purpose may be lacking. • Priorities may be unrealistic and documentation may be incomplete. • Group may not achieve goal.	• Clear goals are not formulated or documented; thus all members don't accept or understand the purpose/task of the group. • Group does not achieve goal.
Assume roles and responsibilities	• Members consistently and effectively fulfill roles and responsibilities. • Leadership roles are clearly defined and/or shared. • Members move team toward the goal by giving and seeking information or opinions, and assessing ideas and arguments critically. • Members are all self-motivated and complete assignments on time. • Most members attend all meetings. • Members reflect on group processes, provide feedback to other group members and make changes as necessary.	• Members consistently and effectively fulfill roles and responsibilities. • Leadership roles are clearly defined and/or shared. • Members move team toward the goal by giving and seeking information or opinions, and assessing ideas and arguments critically. • Members are all self-motivated and complete assignments on time. • Most members attend all meetings. • Members reflect on group processes, provide feedback to other group members and make changes as necessary.	• Members often fulfill roles and responsibilities. Leadership roles are generally defined and/or shared. • Generally, members are motivated and complete assignments in a timely manner. • Many members attend most meetings.	• Some members may not fulfill roles and responsibilities. • Leadership roles are not clearly defined and/or effectively shared. • Some members are not motivated and some assignments are not completed in a timely manner. • Meetings rarely include most members.	• Members do not fulfill roles and responsibilities. • Leadership roles are not defined and/or shared. • Members are not self-motivated and assignments are not completed on time. • Many members miss meetings. • Members continue processes that prove nonfunctional.

Performance Criteria	Capstone Level (4) **The following are achieved *without prompting* from instructor**:	Practice Level (3)	Foundation Level (2)	Pre-Foundation Level (1)	Pre-Foundation Level (0)
Communicate effectively	• Members always communicate openly and respectfully. • Members listen to each other's ideas. • Members support and encourage each other. • Communication patterns foster a positive climate that motivates the team and builds cohesion and trust.	• Members always communicate openly and respectfully. • Members listen to each other's ideas. • Members support and encourage each other. • Communication patterns foster a positive climate that motivates the team and builds cohesion and trust.	• Members usually communicate openly and respectfully. • Members often listen to most ideas. • Members usually support and encourage each other.	• Members may not consistently communicate openly and respectfully. • Members may not listen to each other.	• Members do not communicate openly and respectfully. • Members do not listen to each other. • Communication patterns undermine teamwork
Reconcile disagreement	• All members welcome disagreement and use difference to improve decisions. • All members respect and accept disagreement and employ effective conflict resolution skills. • Subgroups absent.	• All members welcome disagreement and use difference to improve decisions. • All members respect and accept disagreement and employ effective conflict resolution skills. • Subgroups absent.	• Many members welcome disagreement and use difference to improve decisions. • Most members respect and accept disagreement and work to account for differences. • Subgroups rarely present.	• Few members welcome disagreement. Difference often results in voting. • Some members respect and accept disagreement and work to account for differences. • Subgroups may be present.	• Members do not welcome disagreement. • Difference often results in voting. Subgroups are present.
Share appropriately	• All members contribute significantly to discussions, decision making and work. • The work product is a collective effort; team members have both individual and mutual accountability for the successful completion of the work product.	• All members contribute significantly to discussions, decision making and work. • The work product is a collective effort; team members have both individual and mutual accountability for the successful completion of the work product.	• Many members contribute to discussions, decision-making and work. • Individuals focus on separate sections of the work product, but have a coordinator who ties the disparate parts together (they rely on the sum of each individual's work).	• Contributions are unequal although all members contribute something to discussions, decision making and work. • Coordination is sporadic so that the final work product is of uneven quality.	• Contributions are unequal. • Certain members dominate discussions, decision making, and work. • Some members may not contribute at all. • Individuals work on separate sections of the work product, but have no coordinating effort to tie parts together.

Performance Criteria	Capstone Level (4) **The following are achieved *without prompting* from instructor**:	Practice Level (3)	Foundation Level (2)	Pre-Foundation Level (1)	Pre-Foundation Level (0)
Develop strategies for effective action	• Members use effective decision making processes to decide on action. • Group shares a clear set of norms and expectations for outcomes. • Group reaches consensus on decisions and produces detailed plans for action.	• Members use effective decision making processes to decide on action. • Group shares a clear set of norms and expectations for outcomes. • Group reaches consensus on decisions and produces detailed plans for action.	• Members usually use effective decision making processes to decide on action. • Most of the group shares norms and expectations for outcomes. • Group reaches consensus on most decisions and produces plans for action.	• Members sometimes use decision making processes to decide on action. Some of the members of the group do not share norms and expectations for outcomes. Group sometimes fails to reach consensus. Plans for action are informal and often arbitrarily assigned.	• Members seldom use decision making processes to decide on action. • Individuals often make decisions for the group. • The group does not share common norms and expectations for outcomes. • Group fails to reach consensus on most decisions. • Group does not produce plans for action.
Cultural Adaptation	• Members always recognize and adapt to differences in background and communication style.	• Members always recognize and adapt to differences in background and communication style.	• Members usually recognize and adapt to differences in background and communication style.	• Members may recognize, but do not adapt to differences in background and communication style	• Members do not recognize differences in background or communication style.

ESLO 5 Quantitative Literacy:
Students will demonstrate quantitative literacy.

Definition
Quantitative literacy comprises the ability to appropriately extract, interpret, evaluate, construct, communicate, and apply quantitative information and methods to solve problems, evaluate claims, and support decisions in students' everyday professional, civic, and personal lives.

Performance Criteria	Foundational (instructions given in detail)	Practicing (general instructions given)	Capstone (little to no instruction)
Calculate	Perform fair short single computations with tools provided.	Perform longer and more complicated computations, or solve problems involving sequences of linked computations selecting from a list of possible tools.	Perform challenging computations and sequences of computations, knowing the tools needed.
Interpret	When prompted, identify specific parts of equations or expressions, interpret specific data points on graphs, interpret results of computations literally.	In response to broad instructor prompting, interpret equations or expressions in a general sense, interpret overall patterns and trends in graphical information. When appropriate, interpret differences in computational results.	Give holistic interpretations of methods, tools used, and results, with little to no instructor prompting or guidance.
Construct Representations	Construct graphical models of statistical information in response to specific instructor prompting.	Construct analytical (equation) or graphical models of mathematical relationships in response to broad instructor prompting.	Construct appropriate, complex, and clearly labeled analytical and/or graphical models with little to no instructor prompting or guidance.
Apply in Context	Solve problems using given formulas or frameworks.	Choose correct formulas, set up correct equations (or systems of equations), and/or choose correct frameworks to solve problems in response to broad instructor prompting. Acknowledge assumptions used in solving problem(s).	Solve relevant complex, multifaceted problems, with little to no instructor prompting, or guidance. Acknowledge and justify assumptions used in solving problem(s).
Communicate	Accurately integrate quantitative evidence into basic arguments in response to specific prompts. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along.	Accurately integrate quantitative evidence into an extended argument in response to a broad prompt. While instructor provides guidance, student uses quantitative evidence to identify, explain, and/or solve a problem. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along.	Accurately integrate quantitative evidence into complex arguments with little to no prompting or guidance. Quantitative evidence is conveyed and explained in such a way that a competent non-expert reader can follow along.

ESLO 6 Diverse Perspectives:
Oregon Tech students will explore diverse perspectives.

Definition
Recognition of diverse perspectives requires the self-awareness, intellectual flexibility, and broad knowledge that enables perception of the world through the eyes of others.[3] This includes but is not limited to the awareness and understanding of the customs, practices, methodologies, and viewpoints of varied cultures, individuals, and identities.

Performance Criteria	High Proficiency (4) The work *meets listed requirements* for this criterion; little to no development needed.	Proficiency (3) The work *meets most requirements*; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in *multiple requirements.*	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in *most requirements.*
Recognize: Shows awareness of one's own perspective.	The student demonstrates a **refined** self-awareness in relation to other perspectives.	The student demonstrates an **evolving** self-awareness in relation to other perspectives.	The student demonstrates an **emerging** self-awareness in relation to other perspectives.	The student does **not** demonstrate self-awareness in relation to other perspectives.
Know: Demonstrates factual knowledge of the foundations of others' perspectives.	The student **applies** factual knowledge of diverse cultures, personalities, places, histories, and/or technologies to their students/work/community.	The student acquires a **developed** body of factual knowledge regarding diverse cultures, personalities, places, histories, and/or technologies.	The student acquires a **basic** level of factual knowledge regarding diverse cultures, personalities, places, histories, and/or technologies.	The student has **no** factual knowledge of diverse cultures, personalities, places, histories, and/or technologies.
Understand: Displays understanding of others' perspectives through practice.	The student is able to **apply** their understanding of a diversity of perspectives to their studies/work/community.	The student is able to **understand** a diversity of perspectives.	The student is able to **recognize** diverse perspectives.	The student is **unable** to recognize diverse perspectives.
Apply: Applies factual knowledge and understanding of diverse perspectives to their interactions with others.	The student applies their knowledge and understanding of diverse perspectives to their **studies/work/community.** *	The student **applies** their knowledge and understanding of diverse perspectives to their studies.	The student may **understand how** to apply knowledge and understanding of diverse perspectives to their studies, but **does not do so**.	The student is **unable** to apply knowledge and understanding of diverse perspectives to their studies.

[3] i.e., from the perspectives of diverse cultures and personalities, with consideration of varied places, histories, and technologies.

Appendix E

Plan for Assessment of Inquiry & Analysis
2017-18

ESLO 2: Oregon Tech students will engage in a process of inquiry and analysis.

Definition
Inquiry and analysis consists of posing meaningful questions about situations and systems, gathering and evaluating relevant evidence, and articulating how that evidence justifies decisions and contributes to students' understanding of how the world works.

Criteria for Inquiry and Analysis Assessment

The following are criteria used in the assessment of student work:

- Identify: Identify a meaningful question or topic of inquiry.
- Investigate: Critically examine existing knowledge and views on the question or topic of inquiry.
- Support: Collect evidence based on the methodology or principles of discipline.
- Evaluate: Critically analyze and distinguish evidence obtained.
- Conclude: Come to a judgment based on evidence and understand the limitations and implications of that judgment.

Description

During the 2017-18 academic year, Oregon Tech will assess the Inquiry and Analysis ESLO. This comprehensive assessment is designed to measure students' ability to demonstrate inquiry and analysis foundational knowledge and skill in general education courses, their ability to practice this knowledge and skill in upper division general education courses, and the transfer of this knowledge and skill to an application within the context of their discipline. The General Education Advisory Council (GEAC) and the Inquiry and Analysis faculty learning community will use the results of this assessment to evaluate the criteria and rubric for inquiry and analysis, identify how well the criteria can be used to develop assignments in a variety of majors, and determine the effectiveness of the Essential Studies Inquiry and Analysis pathway. The plan for assessment is as follows:

- General education assessment will be conducted in a sample of courses identified as Foundation and Essential Practice in the Essential Studies Inquiry and Analysis pathway. The sample will be determined by the GEAC and the Inquiry and Analysis faculty learning community.
- Program assessment will be conducted in courses identified by program faculty as Program-Integrated Inquiry and Analysis based on the fall 2016 Essential Studies mapping exercise. Assessment will be conducted in each baccalaureate degree program.
- The Commission on College Teaching (CCT) and the Inquiry and Analysis faculty learning community will offer assignment design workshops and rubric training for participating faculty.
- The time period for assessment will span the 2017-18 academic year including Fall 2017, Winter 2018, and Spring 2018.

Rubric
The Assessment Commission will use the Inquiry and Analysis rubric developed by the Inquiry and Analysis ESLO committee for this assessment. Both faculty and students will receive the rubric. This assessment will inform potential changes to the rubric.

Data Collection
The Office of Academic Excellence will assist faculty by providing training and support for data collection using LiveText. Data to be collected will include the original assignment, student work, and scores for each student based on the rubric. Data will be aggregated for further analysis by the Inquiry and Analysis faculty learning community, GEAC, and the Executive Committee of the Assessment Commission.

Data Elements
Student scores for each of the five performance criteria will be collected in this assessment process and linked to institutional data for further analysis (30 data fields from Banner). Analysis can be performed in LiveText at the institutional, college, department, program, and course level.

Data Reporting
The Director of Academic Excellence will prepare a written report of this assessment which will include analysis and recommendations from the Inquiry and Analysis faculty learning community, GEAC, and the Executive Committee of the Assessment Commission. The Director of Academic Excellence along with CCT and the Inquiry and Analysis faculty learning community will report the results of the assessment to the faculty in convocation presentations and workshops, and the final report will be posted on the assessment website.

Documentation
All documentation from this activity, including the final report, assessment assignments, student work, results, and faculty reflections will be captured in LiveText, and complied in the Academic Excellence Office records.

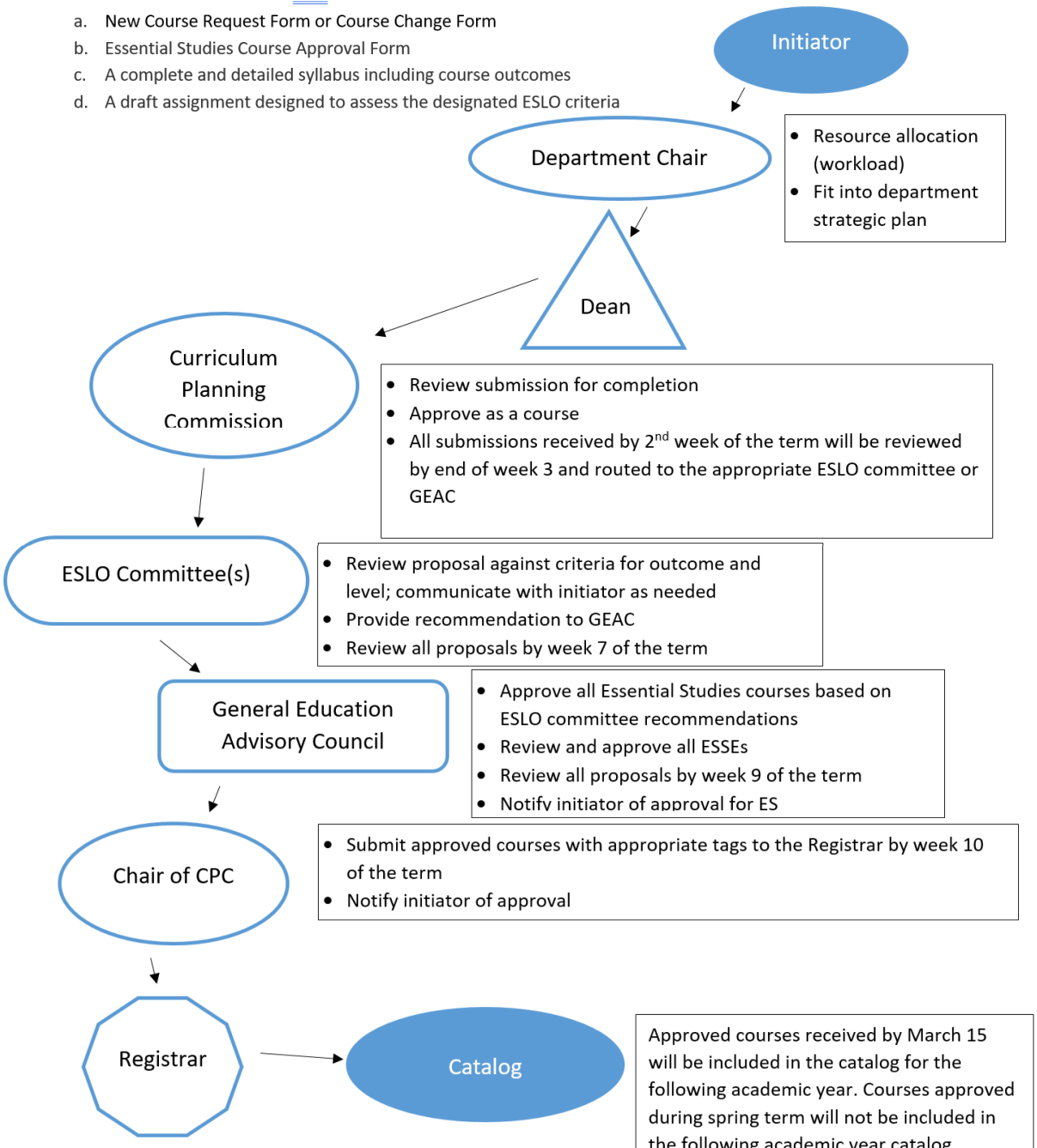
Appendix F

General Education Course Approval Process and Form

(as used during 2016-2017 academic year)

Essential Studies Course Approval Process

1. The following procedures apply for approval of, or changes to, Essential Studies courses.
2. The initiator will submit to CPC:
   a. New Course Request Form or Course Change Form
   b. Essential Studies Course Approval Form
   c. A complete and detailed syllabus including course outcomes
   d. A draft assignment designed to assess the designated ESLO criteria



Oregon TECH

Essential Studies Course Approval Form

Course Number & Title:

_____

(use a separate form for each course and ESLO)

I. Logistical Information: List the term(s) offered, locations and modes of offering, and projected capacity:

II. Levels of Achievement & Prerequisites

What is this course's level of achievement for the ESLO? (Select foundation, practice or capstone)

- **Foundation**. Learning new knowledge and skills. Assignments reflect significant scaffolding; highly structured environment. Active learning is appropriate at this level.
- **Practice**. Learning how to apply knowledge and skills in scripted examples. Assignments reflect moderate scaffolding, but students are learning how to work with less structured/open-ended problems and situations.
  Prerequisite courses: _____
  Indicate which type of course and specific prerequisites this course builds on:
  - Essential Practice. Practice courses taught by content area experts.
  - Program-Integrated. Practice courses that require demonstration of ESLOs within the major.
  - ESSE. Cross-disciplinary experience that demonstrates synthesis of all ESLOs.
- **Capstone**. Students meet the criteria with minimal or no prompting. Assignments reflect no scaffolding; students work independently in unstructured environments.
  Prerequisite courses: _____

III. ESLO: Indicate which ESLO and criteria this course will fulfill.

☐ COM	☐ IA	☐ ER	☐ TW	☐ QL	☐ DP
☐ Oral ☐ Written	☐ IA-H ☐ IA-SS ☐ IA-NS				
☐ Purpose ☐ Audience ☐ Evidence ☐ Genre ☐ Style & delivery ☐ Visual ☐ Justification	☐ Identify ☐ Investigate ☐ Support ☐ Evaluate ☐ Conclude	☐ Theory ☐ Recognition ☐ Logic ☐ Judgment	☐ Achieve purpose ☐ Fulfill roles ☐ Communicate ☐ Reconcile ☐ Contribute ☐ Develop strategies ☐ Adjust	☐ Calculate ☐ Interpret ☐ Construct ☐ Apply in context ☐ Communicate	☐ Recognize ☐ Know ☐ Understand ☐ Apply

a. How do students learn and practice the targeted ESLO within this course? Briefly describe how the course as a whole addresses the criteria checked above for the targeted ESLO, including potential texts, instructional approaches, and/or course materials. (Attach detailed syllabus that includes course outcomes.)

b. How do students demonstrate the appropriate level of proficiency in this ESLO? Briefly describe a significant assignment(s) and/or student work appropriate for proficiency assessment in this ESLO, identifying how the assignment(s) will require students to demonstrate each of the criteria checked above. (Attach assignment(s).)

Department chair and dean signatures indicate proposal fits departmental and academic strategic plans and are willing to commit appropriate resources to support the proposed course. In addition, the department chair commits to ensuring course outcome alignment over all sections, locations and modes of delivery.

_____

Department Chair

_____

Dean

If submitting this form in conjunction with CPC changes, please submit by including with your CPC submission. If you are submitting this form only for Essential Studies course approval with no other changes, please submit to GEAC support nellie.stewart@oit.edu or OW145.

Appendix G

Approved Essential Studies Course Lists

(reviewed by GEAC 18 May 2017 and 15 June 2017)

The below lists describe the course lists meeting Essential Studies requirements as reviewed by ESLO committees and approved by GEAC during the 2016-2017 academic year. We anticipate some further additions to these lists in Fall 2017. Below each list is a note on the current status of the list and further work that may be needed to complete it to a form usable in final program mapping.

All courses listed below without additional annotation are considered as approved by GEAC for catalog and curriculum mapping use.

ESLO 1: Communication

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
FOUNDATION			
Fall 2016	SPE 111	Public Speaking	*
Fall 2016	WRI 121	English Composition	*
Fall 2016	WRI 122	Argumentative Writing	*
ESSENTIAL PRACTICE			
Fall 2016	COM 225	Interpersonal Communication	**
Fall 2016	WRI 227	Technical Report Writing	Spring 2017
Fall 2016	WRI 327	Advanced Technical Writing	Spring 2017
Fall 2016	WRI 350	Documentation Development	Spring 2017
Fall 2016	WRI 410	Proposal and Grant Writing	Winter 2017

Status of list:
* GEAC is still awaiting submission of documentation demonstrating the alignment of SPE111, WRI121, and WRI122 with Communication criteria. Approval is expected without difficulty.

** Redevelopment of Essential Practice Communication courses is currently underway in the Communication department and is expected to continue in the 2017-2018 academic year. However, approval of the above course, in addition to new discipline-oriented technical writing courses in Health Sciences and Engineering, are expected without difficulty.

ESLO 2: Inquiry & Analysis

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
FOUNDATION – Humanities			
Fall 2016	HUM 105	Everyone's a Critic: Text, Images, Games	Fall 2016
Fall 2016	HUM 125	Introduction to Technology, Society and Values	Fall 2016
Fall 2016	HUM 147	Western Civilization in the Classical Age	Fall 2016
Fall 2016	HUM 148	Western Civilization in the Medieval Age	Fall 2016
Fall 2016	HUM 149	Western Civilization in the Modern Age	Fall 2016
Fall 2016	HUM 245	Digital Diversity	Spring 2017
Fall 2016	PHIL 105	Introduction to Ethics	Fall 2016
Fall 2016	PHIL 205	Introduction to Logic	Fall 2016

FOUNDATION – Natural Sciences			
Fall 2016	BIO 101	Introduction to Cell Biology	Fall 2016
Fall 2016	BIO 111	Introduction to Environmental Science	Spring 2017
Fall 2016	CHE 101/104	Introduction to General Chemistry with Lab	Fall 2016
Spring 2017	CHE 201/204	General Chemistry with Lab	Spring 2017
Fall 2016	CHE 221	General Chemistry	Spring 2017
FOUNDATION – Social Sciences			
Fall 2016	ECO 201	Principles of Microeconomics	Spring 2017
Fall 2016	ECO 202	Principles of Macroeconomics	Fall 2016
Spring 2017	HIST 201	US History	Spring 2017
Spring 2017	HIST 202	US History	Spring 2017
Spring 2017	HIST 203	US History	Spring 2017
Fall 2016	PSY 201	Psychology	Fall 2016
Fall 2016	PSY 202	Psychology	Fall 2016
Fall 2016	SOC 204	Introduction to Sociology	Fall 2016
Fall 2016	SOC 225	Medical Sociology	Fall 2016
ESSENTIAL PRACTICE – Humanities			
Fall 2016	HUM 335	Video Game Studies	Spring 2017
Winter 2017	LIS 305	Research Strategies	Spring 2017
Fall 2016	LIT 253	19th Century American Literature	Spring 2017
Fall 2016	LIT 254	20th Century Literature	Spring 2017
Fall 2016	LIT 255	Contemporary American Literature	Spring 2017
Fall 2016	LIT 315	Science Fiction Literature Film	Spring 2017
Fall 2016	LIT 325	The Metropolis	Spring 2017
Fall 2016	PHIL 305	Medical Ethics*	Winter 2017
Fall 2016	PHIL 325	Environmental Ethics*	Winter 2017
Fall 2016	PHIL 331	Ethics in the Professions*	Winter 2017
Fall 2016	PHIL 335	Philosophy of Science	Winter 2017
Fall 2016	PHIL 342	Business Ethics*	Winter 2017
Fall 2016	PHIL 405	Advanced Logic	Winter 2017
ESSENTIAL PRACTICE – Sciences			
Fall 2016	PSY 308	Psychology of Eating	Spring 2017
Fall 2016	PSY 321	Theories of Personality I	Spring 2017
Fall 2016	PSY 322	Theories of Personality II	Spring 2017
Fall 2016	PSY 330	Social Psychology I	Spring 2017
Fall 2016	PSY 331	Social Psychology II	Spring 2017

*Note: Ethical Reasoning Essential Practice courses can-not be double-dipped (each also meet Inquiry & Analysis criteria).

Status of list: GEAC anticipates significant further growth of these lists, particularly from the following disciplines:

Humanities (Foundation and Essential Practice): ART.
Social Sciences (especially Essential Practice): HIST, GEOG, ANTH, PSCI, SOC.
Natural Sciences (especially Essential Practice): BIO2xx, CHE 2xx, PHY 2xx, GEOL, and ENV.

Further discussion surrounding cross-listing of PSY201/2/3 on IA and DP lists may be desirable.

Meetings with HSS and NS chairs will need to occur during summer 2017 to identify a targeted list of courses to seek submission for by early fall term 2017.

ESLO 3: Ethical Reasoning

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
ESSENTIAL PRACTICE			
Fall 2016	PHIL 305	Medical Ethics	Fall 2016
Fall 2016	PHIL 325	Environmental Ethics	Fall 2016
Fall 2016	PHIL 331	Ethics in the Professions	Fall 2016
Fall 2016	PHIL 342	Business Ethics	Fall 2016

Status of list: GEAC does not anticipate further changes to this list at this point in time.

Note: Ethical Reasoning Essential Practice courses can-not be double-dipped (each also meet Inquiry & Analysis criteria).

ESLO 4: Teamwork

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
FOUNDATION			
	SPE 221	Small Group and Team Communication	**

Status of list: GEAC is still awaiting submission of documentation demonstrating the alignment of **SPE221 with Teamwork criteria. Approval is expected without difficulty.

ESLO 5: Quantitative Literacy

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
FOUNDATION			
Fall 2016	MATH 361	Statistical Methods I	Fall 2016
Winter 2017	MATH 243	Introductory Statistics	Spring 2017
ESSENTIAL PRACTICE			
Fall 2016	BUS 331	Personal Finance	Spring 2017
Fall 2016	ECO 202	Principles of Macroeconomics	Spring 2017
Spring 2017	MATH 371	Finite Math and Calculus I	Spring 2017
Winter 2017	MGT 345	Engineering Economy	**

Status of list: Pending final ESLO committee approval of **MGT345 and possible inclusion of ECO201, and ACC 201, GEAC does not anticipate significant changes to this list at this point in time.

Further consideration needed regarding whether cross-listing of ECO201/202 between Essential Practice QL and Foundational Inquiry & Analysis is permissible and whether student "double-dipping" would be allowed.

ESLO 6: Diverse Perspectives

SUBMIT DATE	COURSE	TITLE	ESLO APPROVED
		FOUNDATION	
Spring 2016	COM 205	Intercultural Communication	Fall 2016
Fall 2016	HUM 105	Everyone's a Critic: Text, Images, Games	Fall 2016
Fall 2016	HUM 147	Western Civilization in the Classical Age	Fall 2016
Fall 2016	HUM 148	Western Civilization in the Medieval Age	Fall 2016
Fall 2016	HUM 149	Western Civilization in the Modern Age	Fall 2016
Fall 2016	HUM 245	Digital Diversity	Fall 2016
Fall 2016	PSY 203	Psychology	Spring 2017
Fall 2016	SOC 201	Social Theory	Fall 2016
Fall 2016	SOC 204	Introduction to Sociology	
		ESSENTIAL PRACTICE	
Fall 2016	COM 325	Gender and Communication	Fall 2016
Spring 2017	HIST 452	Globalization and the PNW	
Fall 2016	HUM 335	Video Game Studies	Fall 2016
Fall 2016	LIT 305	American Nature Writing	Fall 2016
Fall 2016	LIT 335	Travel Writing (Fiction and Nonfiction)	Fall 2016
Fall 2016	PSY 321	Theories of Personality I	Fall 2016
Fall 2016	PSY 322	Theories of Personality II	Fall 2016
Fall 2016	PSY 330	Social Psychology I	Fall 2016
Fall 2016	PSY 331	Social Psychology II	Fall 2016
Fall 2016	PSY 358	Psychology of Gender	Fall 2016
Fall 2016	PSY 371	Human Sexuality I	Fall 2016
Fall 2016	PSY 372	Human Sexuality II	Fall 2016

Status of list: GEAC anticipates significant further growth of these lists, particularly from the following disciplines:

Social Sciences: HIST, GEOG, ANTH, PSCI, SOC.
Communication: COM

Further discussion surrounding cross-listing of PSY201/2/3 on IA and DP lists may be desirable.

Meetings with HSS and Comm chairs will need to occur during summer 2017 to identify a targeted list of courses to seek submission for by early fall term 2017.

Appendix H

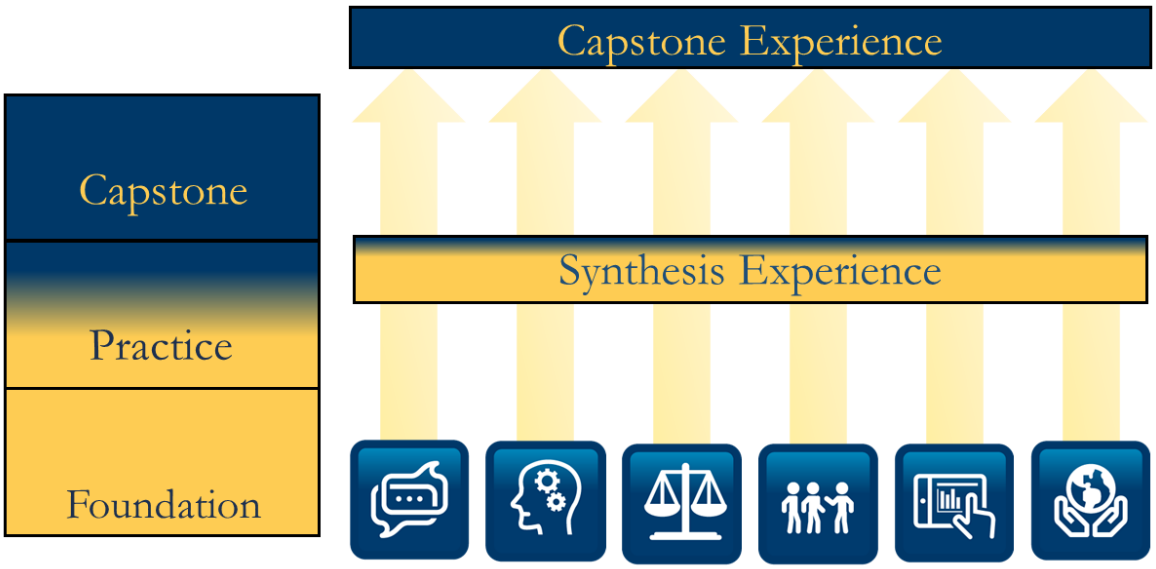
General Education Curriculum Mapping Process

(presentation to department chairs and program directors, 4 November 2016)

Purpose of today's session

- To provide tools
- This mapping will:
  - Help programs better understand the full model
  - Provide mechanisms for detailed feedback
  - Help assess impact on transfer
  - Help assess resource needs
  - Prepare for CPC approval in 2017-18

Essential Studies: the Path to Success



Mapping Tools

18	PHY 221	4	General Physics with Calculus		PHY 221	4	General Physics with Calculus
19	WRI 122	3	Argumentative Writing		WRI 122	3	Argumentative Writing
20	X	3	Social Science Elective		X	3	Social Science Elective
21							
22	**Freshman Year - Spring**				**Freshman Year - Spring**		
23	MATH 253N	4	Sequences and Series		MATH 253N	4	Sequences and Series
24	PHY 222	4	General Physics with Calculus		PHY 222	4	General Physics with Calculus
25	X	3	Humanities Elective		X	3	Humanities Elective
26	X	3	Social Science Elective		X	3	Social Science Elective
27							
28							
29	**Sophomore Year - Fall**				**Sophomore Year - Fall**		
30	MATH 254N	4	Vector Calculus I		MATH 254N	4	Vector Calculus I
31	MATH 327	4	Discrete Mathematics		MATH 327	4	Discrete Mathematics
32	PHY 223	4	General Physics with Calculus		PHY 223	4	General Physics with Calculus
33	X	3	Elective		X	3	Elective
34							
35							
36	**Sophomore Year - Winter**				**Sophomore Year - Winter**		

Intructions | Curriculum Mapping | Reflection Questions | Draft Course Lists | ESLO Definitions

A Proposed Process

Step 1: Identify your disciplinary capstone

Step 2: Identify Program-Integrated Courses

Step 3: Identify Program-Integrated Foundational Ethics

Step 4: Identify Foundational and Essential Practice Requirements

Step 5: Insert Remaining Essential Studies Requirements

Preparation for Mapping with Faculty

Freshman Year - Fall

WRI 121 - English Composition
MATH 111 - College Algebra
x - Humanities elective
x - Social Science elective

Freshman Year - Winter

WRI 122 - Argumentative Writing
MATH 112 - Trigonometry
EE 121 - Fundamentals of Electric Circuits I
x - Social Science elective

Freshman Year - Spring

SPE 111 - Public Speaking
MATH 251 - Differential Calculus
EE 123 - Fundamentals of Electric Circuits II
x - Humanities elective

Color Codes

- GREEN – Programmatic courses
- BLUE – Specifically required courses
- YELLOW – General education electives

Step 1: Identify your disciplinary capstone

Senior Year - Fall	
EE 331 - Digital System Design with HDL	
ENGR 465 - Capstone Project	CAPSTONE
x - Technical elective *	
x - Social Science elective	
Senior Year - Winter	
EE 430 - Linear Systems and Digital Signal Processing	
EE 432 - Advanced Digital System Design with HDL	
ENGR 465 - Capstone Project	CAPSTONE
x - Humanities elective	
Senior Year - Spring	
EE 401 - Communication Systems	
ENGR 465 - Capstone Project	CAPSTONE
x - Social Science elective	
x - Elective	

Reflection

Step 1: Capstone Experience(s)

*How do your students currently exhibit each learning outcome **within the capstone**? If these aren't clearly exhibited in student work associated w*

Outcome:	**Select the statement that best de**
Communication (Written): How do your students communicate in writing?	
Communication (Oral): How do your students communicate in oral presentation(s)?	
Teamwork: How do students work in teams?	
Inquiry & Analysis: How do students use evidence to support conclusions or decisions?	
Diverse Perspectives: How do students take the perspectives of others into account (e.g. in interacting with clients, those with different backgrounds, etc.)	
Ethical Reasoning: How do students take ethical considerations into account?	
Quantitative Literacy: How do students interpret, use, and communicate quantitative data?	

Step 2: Identify Program-Integrated Courses

Junior Year - Winter	
EE 323 - Electronics II	
EE 333 - Microcontroller Engineering	Program Integrated Communication (Written)
ENGR 267 - Engineering Programming	
Junior Year - Spring	
EE 325 - Electronics III	Program Integrated Communication (Oral), Teamwork
EE 335 - Advanced Microcontroller Engineering	Program Integrated Inquiry & Analysis/Quantitative Literacy
x - Technical elective *	
Junior Year - Summer	
SPE 321 - Small Group and Team Communication	
x - Writing Elective	
x - Technical elective *	

Step 3: Identify Program-Integrated Foundational Ethics

Color code the map in this column as follows:			*Indicate Essential Studies Requirements (using drop-down menu, Indicate 2*
GREEN – Programmatic courses			
BLUE – Specifically required courses			
YELLOW – General education electives			
ESSENTIAL STUDIES WORKING DRAFT			
Freshman Year - Fall			
ENGR 111	2	MMET Orientation	Foundation Ethical Reasoning
MATH 111	4	College Algebra	
WRI 121	3	English Composition	
X	3	Humanities/Social Science Elective	
X	3	Humanities/Social Science Elective	

Step 4: Identify Foundation and Essential Practice Requirements met

Freshman Year - Fall

WRI 121 - English Composition	**Communication - Foundation - WRI 121**
MATH 111 - College Algebra	
x - Humanities elective	
x - Social Science elective	

Freshman Year - Winter

WRI 122 - Argumentative Writing	**Communication - Foundation - WRI 122**
MATH 112 - Trigonometry	
EE 121 - Fundamentals of Electric Circuits I	
x - Social Science elective	

Freshman Year - Spring

SPE 111 - Public Speaking	**Communication - Foundation - SPE111**
MATH 251 - Differential Calculus	
EE 123 - Fundamentals of Electric Circuits II	
x - Humanities elective	

Sophomore Year - Fall

WRI 227 - Technical Report Writing	**Communication - Essential Practice**

FOUNDATION

Communication	Inquiry and Analysis			Ethical Reasoning	Teamwork	Quantitat
	Humanities Inquiry	Social Sciences Inquiry	Natural Sciences Inquiry			
					SPE 321 (will be SPE 221)	MATH 24
SPE 111	HUM 105	PSY 201	BIO 101	BUS 226	Small Group and Team	Introduct
Public Speaking	Everyone's a Critic: Text, Images, Games	Psychology	Introduction to Cell Biology	Business Law	Communication	Statistics
	HUM 125			HUM 125		
WRI 121	Introduction to Technology, Society and	PSY 202	BIO 111	Introduction to Technology, Society and		MATH 36
Argumentative Writing	Values	Psychology	Introduction to Environmental Science	Values		Statistica
			CHE 101/104			
WRI 122	HUM 147	SOC 204	Introduction to General Chemistry with	PHIL 105		
English Composition	Western Civilization in the Classical Age	Introduction to Sociology	Lab	Introduction to Ethics		
	HUM 148	SOC 225	CHE 201/204	X		
	Western Civilization in the Medieval Age	Medical Sociology	General Chemistry I with Lab	Program-integrated option		
	HUM 149	ANTH X	CHE 221			
	Western Civilization in the Modern Age		General Chemistry I			
	HUM 245	HIST X	PHY 221			
	Digital Diversity		General Physics with Calculus			
	LIT 253					
	19th Century American Literaure					
	LIT 254					
	20th Century Literature					
	LIT 255					
	Contemporary American Literature					
	PHIL 105					
	Introduction to Ethics					
	PHIL 205					
	Introduction to Logic					

ESSENTIAL PRACTICE

Communication	Inquiry and Analysis		Ethical Reasoning	Quantitative Literacy
	Humanities Inquiry	Science Inquiry		
WRI 214	COM 325	PSY 321	PHIL 305	ECO 201
Business Correspondence	Gender and Communication	Theories of Personality I	Medical Ethics	Principles of Economics, Micro
WRI 227	HUM 335	PSY 322	PHIL 325	ECO 202
Technical Report Writing	Video Game Studies	Theories of Personality II	Environmental Ethics	Principles of Economics, Macro
WRI 327	LIT 305	PSY 330	PHIL 331	BUS 331
Advanced Technical Writing	American Nature Writing	Social Psychology I	Ethics in the Professions	Personal Finance

Intructions | Curriculum Mapping | Reflection Questions | **Draft Course Lists** | ESLO Definitions | Sheet3

Step 4. Foundation and Essential Practice Requirements Already Met		
Foundation Requirements:		**Indicate requirements already**
	Communication - Foundation - WRI 121	Met
	Communication - Foundation - WRI 122	Met
	Communication - Foundation - SPE 111	Met
	Humanities Inquiry - Foundation	
	Social Sciences Inquiry - Foundation	
	Natural Sciences Inquiry - Foundation	Met
	Ethical Reasoning - Foundation	Met
	Teamwork - Foundation - SPE 321	Met
	Quantitative Literacy - Foundation *(MATH 243 or MATH 361)*	Met
	Diverse Perspectives - Foundation	
Essential Practice Requirements:		
	Communication - Essential Practice	Met
	Humanities Inquiry - Essential Practice	
	Sciences Inquiry - Essential Practice	
	Ethical Reasoning - Essential Practice	Met
	Quantitative Literacy - Essential Practice	Met

Step 5: Insert Remaining Essential Studies Requirements

Freshman Year - Fall

WRI 121 - English Composition
MATH 111 - College Algebra
(Open Slot)
(Open Slot)

Freshman Year - Winter

WRI 122 - Argumentative Writing
MATH 112 - Trigonometry
EE 121 - Fundamentals of Electric Circuits I
(Open Slot)

Freshman Year - Spring

SPE 111 - Public Speaking
MATH 251 - Differential Calculus
EE 123 - Fundamentals of Electric Circuits II
(Open Slot)

Insert Unmet Foundation Requirements

Freshman Year - Fall

WRI 121 - English Composition
MATH 111 - College Algebra
Diverse Perspectives – Foundation Elective
Humanities Inquiry – Foundation Elective

Freshman Year - Winter

WRI 122 - Argumentative Writing
MATH 112 - Trigonometry
EE 121 - Fundamentals of Electric Circuits I
Social Sciences Inquiry – Foundation Elective

Freshman Year - Spring

SPE 111 - Public Speaking
MATH 251 - Differential Calculus
EE 123 - Fundamentals of Electric Circuits II
Ethical Reasoning – Foundation Elective

Insert the Synthesis Experience

Junior Year - Winter

EE 323 - Electronics II	
EE 333 - Microcontroller Engineering	Program Integrated Communication (Written)
ENGR 267 - Engineering Programming	

Junior Year - Spring

EE 325 - Electronics III	Program Integrated Communication (Oral), Teamwork
EE 335 - Advanced Microcontroller Engineering	Program Integrated Inquiry & Analysis/Quantitative Literacy
x - Technical elective *	

Junior Year - Summer

SPE 321 - Small Group and Team Communication	**Teamwork - Foundation**
Essential Studies Synthesis Experience (ESSE)	
x - Technical elective *	

Insert Unmet Essential Practice (15 credits)

Junior Year - Summer	
SPE 321 - Small Group and Team Communication	**Teamwork - Foundation**
Essential Studies Synthesis Experience	
x - Technical elective *	
Senior Year - Fall	
EE 331 - Digital System Design with HDL	
ENGR 465 - Capstone Project	CAPSTONE
x - Technical elective *	
Essential Practice	
Senior Year - Winter	
EE 430 - Linear Systems and Digital Signal Processing	
EE 432 - Advanced Digital System Design with HDL	
ENGR 465 - Capstone Project	CAPSTONE
Essential Practice	
Senior Year - Spring	
EE 401 - Communication Systems	Program-Integrated Ethical Reasoning, PI Diverse Perspectives

We Want Your Input

Step 5. Global Reflection	
Are there courses that you might expect or hope to count towards Essential Studies requirements that don't show up on the current lists (these may be areas to further explore growing lists)?	
Are there opportunties for efficiencies that aren't realized here, that you'd like to investigate further?	
Do you have any other concerns, thoughts or input on the Essential Studies model, your draft curriculum map, or the mapping process?	

Submit

December 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24

Appendix I

Essential Studies Course Choices in Draft Curriculum Maps

	FOUNDATION									
	Communication	Communication	Communication	Inquiry & Analysis Humanities	Inquiry & Analysis Natural Sciences	Inquiry & Analysis Social Sciences	Ethical Reasoning	Teamwork	Quantitative Literacy	Diverse Perspectives
Applied Mathematics B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	ELECTIVE	ELECTIVE	SPE 221	MATH 361	ELECTIVE
Applied Psychology B.S. (K,O, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	PSY 201	PSY 203	SPE 221	MATH 243/361	PSY 203
Biology-Health Sciences B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	BIO 211	ELECTIVE	BIO 109	SPE 221	MATH 361	ELECTIVE
Civil Engineering B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 221	ELECTIVE	ENGR 101	SPE 221	MATH 361	ELECTIVE
Communication Studies B.S. (K)	WRI 121	WRI 122	SPE 111		ELECTIVE	PSY 201	COM 255	SPE 221	MATH ELECTIVE	COM 205
Computer Engineering Technology B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	ELECTIVE	CST 120	SPE 221	MATH 361	ELECTIVE
Dental Hygiene B.S. (C, K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	SOC 204	DH 275	SPE 221	MATH 243	PSY ELECTIVE
Dental Hygiene B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY ELECTIVE	DH 275	SPE 221	MATH 243	SOC 204
Diagnostic Medical Sonography B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	ELECTIVE		SPE 221		PSY 203
Diagnostic Medical Sonography B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY 201/202		SPE 221		ELECTIVE
Echocardiography B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY ELECTIVE	ECHO 225	SPE 221	MATH 111/112	MIT 103
Echocardiography B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY 201/202		SPE 221		
Electrical Engineering B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 201/204	ELECTIVE	ENGR 101	SPE 221		ELECTIVE
Electrical Engineering B.S. Wilsonville (W)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 201/204	ELECTIVE		SPE 221		ELECTIVE
Electronics Engineering Technology B.S. (W)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	ELECTIVE	ELECTIVE	SPE 221	STAT ELECTIVE	ELECTIVE
Embedded Systems Engineering Technology B.S. (K, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	PSY 201	CST 120	SPE 221	MATH 465	ELECTIVE
Emergency Medical Services B.S. (W)	WRI 121	WRI 122	SPE 111	ELECTIVE		PSY 201	EMS 115	SPE 221	MATH 361	ELECTIVE
Environmental Sciences B.S. (K)	WRI 121	WRI 122	SPE 111		CHE 221		ENV 111/ENV 275	SPE 221	MATH 361	
Geomatics B.S. Geographic Information System Option (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	ELECTIVE	GME 161	SPE 221	MATH 361	ELECTIVE
Geomatics B.S. Surveying Option (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	ELECTIVE	GME 161	SPE 221	MATH 361	ELECTIVE
Health Care Management B.S. Administration Option (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE		MIS 255	SPE 221	MATH 361	COM 205
Health Care Management B.S. Clinical Option (K, O)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	ECO 202	MIS 255	SPE 221	MATH 361	COM 205
Health Care Management B.S. Radiologic Science Management Option (K, O)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	ECO 202	MIS 255	SPE 221	MATH 361	PSY 203
Health Informatics B.S. New (K, O, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	SOC 225	MIS 255	SPE 221	MATH 361	ELECTIVE
Health Informatics B.S. Old (K, O, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	SOC 225	MIS 255	SPE 221	MATH 361	ELECTIVE
Information Technology B.S. (K, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	ECO 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Management B.S. Accounting Option (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	PSY 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Management B.S. Entrepreneurship/Small Business Management (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	PSY 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Management B.S. Marketing Option (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	PSY 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Manufacturing Engineering Technology B.S. (B, K, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	ELECTIVE	ENGR 111	SPE 221	MATH 361	ELECTIVE
Mechanical Engineering B.S. (B, K)	WRI 121	WRI 122	SPE 111	HUM 125	CHE 201/204	ELECTIVE	ENGR 111	SPE 221	MATH 361/465	ELECTIVE
Mechanical Engineering Technology B.S. (B, K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/201	ELECTIVE	ENGR 111	SPE 221	MATH 361	ELECTIVE
Medical Laboratory Science B.S. (W)	WRI 121	WRI 122	SPE 111	ELECTIVE	BIO 211/231	ELECTIVE	MLS 100	SPE 221	MATH 243/361	ELECTIVE
Nuclear Medicine Technology B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	PSY ELECTIVE	ELECTIVE		SPE 221		ELECTIVE
Operations Management B.S. (K, W, O)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	ECO 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Population Health Management B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	LAB SCIENCE ELECTIVE	SOC 204	SOC 204	SPE 221	MATH 243/361	SOC 201
Radiologic Science B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY 201/202		SPE 221		ELECTIVE
Radiologic Science B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY 201/202	RDSC 272	SPE 221		ELECTIVE
Renewable Energy Engineering B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 201/204	ELECTIVE	ENGR 101	SPE 221	MATH 361/465	ELECTIVE
Renewable Energy Engineering B.S. Wilsonville (W)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 201/204	ELECTIVE	ENGR 101	SPE 221	MATH 361/465	ELECTIVE
Respiratory Care B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	ELECTIVE	RCP 100	SPE 221	MATH 243	ELECTIVE
Respiratory Care B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	ELECTIVE	RCP 100	SPE 221	MATH 243	ELECTIVE
Software Engineering Technology B.S. (K, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	PHY 221	PSY 201		SPE 221		ELECTIVE
Technology and Management B.A.S. (K, O, W)	WRI 121	WRI 122	SPE 111	ELECTIVE	ELECTIVE	ECO 201	BUS 226	SPE 221	MATH 361	ELECTIVE
Vascular Technology B.S. (K)	WRI 121	WRI 122	SPE 111	ELECTIVE	CHE 101/104	PSY 201/202	VAS 225	SPE 221		ELECTIVE
Vascular Technology B.S. Degree Completion (O)	WRI 121	WRI 122	SPE 111		CHE 101/104	PSY 201/202		SPE 221		

B	Boeing
C	Chemeketa
K	Klamath Falls
O	Online
W	Wilsonville
	approved by ESLO committee
	submitted to ESLO committee; not yet approv
	not yet submitted to ESLO committee
	need further discussion
	not specified in curriculum map

	ESSENTIAL PRACTICE					
	Communication	Inquiry & Analysis Humanities	Inquiry & Analysis Sciences	Ethical Reasoning	Quantitative Literacy	Diverse Perspectives
Applied Mathematics B.S. (K)		HUM ELECTIVE	PHY 222		MATH 251	HUM ELECTIVE
Applied Psychology B.S. (K,O, W)	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE
Biology-Health Sciences B.S. (K)	WRI 227	ELECTIVE	ELECTIVE	PHIL 305		ELECTIVE
Civil Engineering B.S. (K)	ELECTIVE	ANTH 335	PHY/CHE ELECTIVE	ELECTIVE	ELECTIVE	ANTH 452
Communication Studies B.S. (K)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE
Computer Engineering Technology B.S. (K)	WRI 227	ELECTIVE		PHIL 331	MGT 345	ANTH 452/HIST 452
Dental Hygiene B.S. (C, K)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE	ELECTIVE
Dental Hygiene B.S. Degree Completion (O)	WRI 227/123	ELECTIVE	PSY ELECTIVE			PSY ELECTIVE
Diagnostic Medical Sonography B.S. (K)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		ELECTIVE
Diagnostic Medical Sonography B.S. Degree Completion (O)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		ELECTIVE
Echocardiography B.S. (K)	WRI 227		ELECTIVE	ELECTIVE		
Echocardiography B.S. Degree Completion (O)	WRI 227					
Electrical Engineering B.S. (K)	WRI 227	ELECTIVE		ELECTIVE	MGT 345	ELECTIVE
Electrical Engineering B.S. Wilsonville (W)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE	MGT 345	ELECTIVE
Electronics Engineering Technology B.S. (W)	WRI 227					
Embedded Systems Engineering Technology B.S. (K, W)	WRI 227	ELECTIVE	ELECTIVE		MGT 345	ANTH 452/HIST 452
Emergency Medical Services B.S. (W)	WRI 227		ELECTIVE	PHIL 331	ECO 202	
Environmental Sciences B.S. (K)	WRI 227				ECO 201	
Geomatics B.S. Geographic Information System Option (K)	WRI 227				MGT 345	
Geomatics B.S. Surveying Option (K)	WRI 227				MGT 345	
Health Care Management B.S. Administration Option (K)	WRI 227	ELECTIVE	PSY 336	PHIL 331/342	ECO 201	ANTH 452/HIST 452
Health Care Management B.S. Clinical Option (K, O)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331/342	ECO 201	ANTH 452/HIST 452
Health Care Management B.S. Radiologic Science Management Option (K, O)	WRI 227	ELECTIVE	ELECTIVE	PHIL 342	ECO 202	ANTH 452/HIST 452
Health Informatics B.S. New (K, O, W)	WRI 227	ELECTIVE		PHIL 331/342	ECO 201	ANTH 452/HIST 452
Health Informatics B.S. Old (K, O, W)	WRI 227	ELECTIVE		PHIL 331/342	ECO 201	ANTH 452/HIST 452
Information Technology B.S. (K, W)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331/342	ECO 202	ANTH 452/HIST 452
Management B.S. Accounting Option (K)	WRI 227			PHIL 331/342	ECO 201	ANTH 452/HIST 452
Management B.S. Entrepreneurship/Small Business Management (K)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331/342	ECO 201	ANTH 452/HIST 452
Management B.S. Marketing Option (K)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331/342	ECO 201	ELECTIVE
Manufacturing Engineering Technology B.S. (B, K, W)	WRI 227	ELECTIVE	ELECTIVE		MGT 345	ANTH 452/HIST 452
Mechanical Engineering B.S. (B, K)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331		ELECTIVE
Mechanical Engineering Technology B.S. (B, K)					MGT 345	
Medical Laboratory Science B.S. (W)	WRI ELECTIVE	ELECTIVE	ELECTIVE	PHIL 331/305	BUS ELECTIVE	ELECTIVE
Nuclear Medicine Technology B.S. (K)	WRI 227					
Operations Management B.S. (K, W, O)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331	ECO 202	ANTH 452/HIST 452/PSCI 326
Population Health Management B.S. (K)	WRI 227			PHIL 335		ANTH 452/HIST 452/ELECTIVE
Radiologic Science B.S. (K)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		ELECTIVE
Radiologic Science B.S. Degree Completion (O)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		ELECTIVE
Renewable Energy Engineering B.S. (K)	WRI 227		CHE260	ELECTIVE	ECO 201/202	HIST 356/357
Renewable Energy Engineering B.S. Wilsonville (W)	WRI 227		CHE260	ELECTIVE	ECO 201/202	HIST 356/357
Respiratory Care B.S. (K)	ELECTIVE	ELECTIVE		RCP 100	ELECTIVE	ELECTIVE
Respiratory Care B.S. Degree Completion (O)	ELECTIVE	ELECTIVE	BIO 105		ELECTIVE	ELECTIVE
Software Engineering Technology B.S. (K, W)	WRI 227	ELECTIVE	ELECTIVE		MGT 345	ANTH 452/HIST 452
Technology and Management B.A.S. (K, O, W)	WRI 227	ELECTIVE	ELECTIVE	PHIL 331/342	ECO 202	ANTH 452/HIST 452
Vascular Technology B.S. (K)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		ELECTIVE
Vascular Technology B.S. Degree Completion (O)	WRI 227	ELECTIVE	ELECTIVE	ELECTIVE		

B	Boeing
C	Chemeketa
K	Klamath Falls
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W	Wilsonville
	approved by ESLO committee
	submitted to ESLO committee; not yet approv
	not yet submitted to ESLO committee
	need further discussion
	not specified in curriculum map

Appendix J
Parameters for Transfer Impact Study

(reviewed by GEAC November 2016)

I. Background and Significance

As the General Education Review Task Force began work on the Essential Studies model, minimizing impact on transfer was a top priority. As Oregon Tech moves to implementation of this model, the Articulation and Transfer subcommittee has reviewed transfer policies and made recommendations to streamline the transfer process and again minimize the impact on transfer populations. Yet, there still remains unanswered questions about how transfer into the Essential Studies program will compare to Oregon Tech's current general education program. The purpose of this study is to identify the impact the new Essential Studies program will have on transfer students and to provide data to support decision making regarding the model, transfer policies and the implementation timeline. Specifically, there is a need to know what groups are impacted, and how large that impact might be. Based on the data collected from this study the General Education Advisory Council will be able to:

1. Accurately communicate the impact of the model on transfer to interested groups
2. Create transfer policies and/or make adjustments to the model to minimize impact on largest groups of transfer students
3. Develop advising materials for potential students
4. Plan for enrollment fluctuations specific to course and location

Using the Essential Studies program requirements and criteria, the Transfer and Articulation subcommittee will evaluate a random sample of student transcripts which have previously been evaluated by the Registrar under the current general education model. Number of credits accepted under each model will be compared to determine impact of the new model on transfer students. Data will be collected to identify Essential Studies requirements with poor transferability and those requirements that transfer in at a high rate. In addition, decisions made by general education department chairs on course equivalencies in the Essential Studies model through this study will be captured to begin building a transfer database. Finally, a typical transfer student will be used to make comparisons between Oregon Tech's current general education model, the Essential Studies model, and the general education programs of other public universities in Oregon.

II. Research Design and Methods

This study will be conducted using incoming students in fall 2016. The population will be divided into three groups:

- True freshmen direct from high school (college credit accumulated while in H.S.)
- Low transfer credits (1– 90 transfer credits)—excluding true freshmen
- High transfer credits (over 90 transfer credits)—excluding post bacs

Post baccalaureate students will be extracted and studied separately to determine if this group has sufficiently fulfilled the Essential Studies requirements.

A stratified random sample of students will be selected from each of these groups by the Director of Institutional Research, ensuring proportionate representation from transfer institutions. Transcripts of these students will be evaluated as follows:

Phase I

An evaluation of thirty transcripts from each of the three groups will be conducted by department chairs from the Natural Sciences, Mathematics, Communication and Humanities/Social Sciences departments. Each chair will evaluate the transcripts relative to courses that would typically fall within their department and identify Essential Studies requirements fulfilled by these transfer courses. Data will be collected to identify Essential Studies requirements with poor transferability and those requirements that transfer in at a high rate. Questions in this process will be funneled to ESLO committees for consideration. Course equivalencies will be captured in a database.

Phase II

Members of the Articulation and Transfer subcommittee will review this work noting the effect of program requirements. In addition, this group will map a typical transfer student on the curricula of the other six public universities in Oregon.

III. Reporting

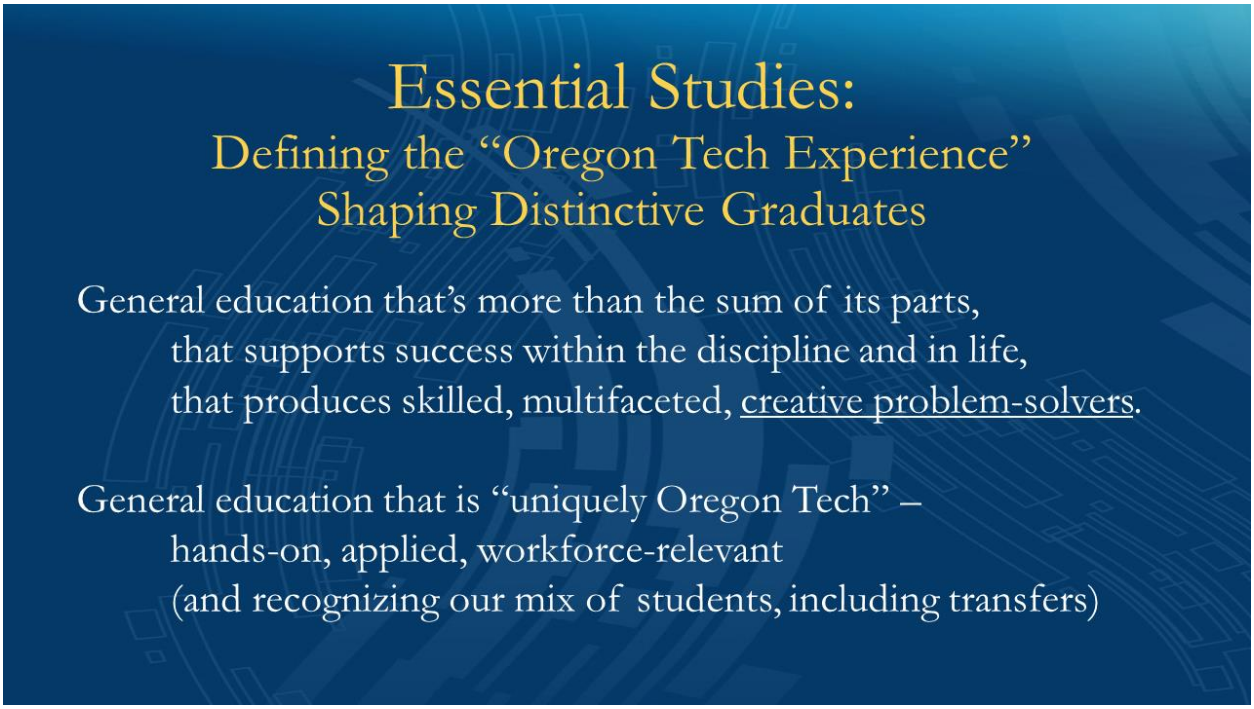
As a result of this study the Articulation and Transfer subcommittee will report the following information to support decision making by a variety of groups:

- Questions regarding course equivalencies as they relate to the Essential Studies model to be considered by ESLO committees and GEAC in making adjustments to criteria in the model or establishing transfer policies.
- Essential Studies requirements with poor transferability and those requirements that transfer in at a high rate for consideration by GEAC for possible adjustments to the model or transfer policies, development of advising materials for potential students, and to begin forecasting demand in the model.
- Initial database of course equivalencies to the Registrar to begin development of a transfer database for Essential Studies and recommendations for completing this work.
- The average impact of the Essential Studies program on transfer students in each of the three groups and the percentage each group represents in the total incoming class.
- A comparison of the typical transfer student at each of the seven public universities in Oregon.

The Articulation and Transfer subcommittee will also make recommendations about further study of post baccalaureate students' preparation to participate in the synthesis and capstone experiences in the Essential Studies program.

Appendix K
Summary Report from Transfer Impact Study

(presented to GEAC 1 June 2017)



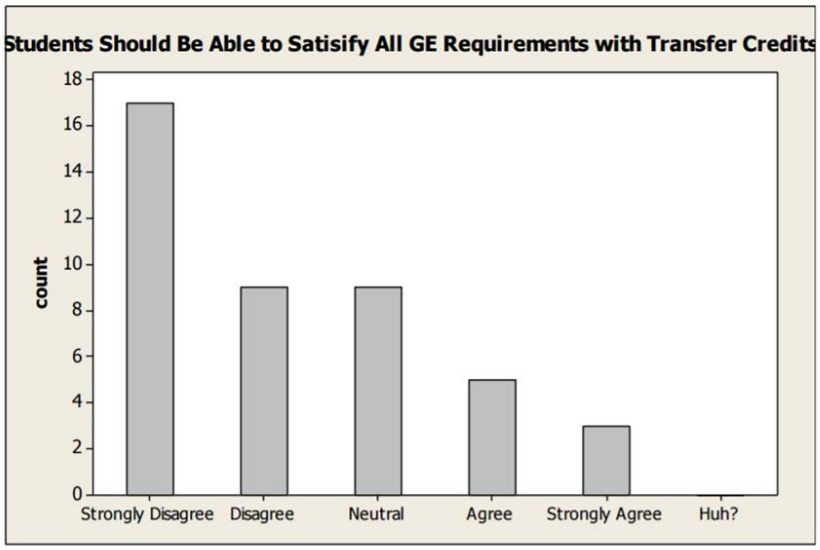
Transfer Impacts

Any changes to any general education will have transfer impacts:
- Negative: extra credits/cost/time to degree
- Positive: enhanced educational experience (knowledge and skills), greater student success and workforce readiness, distinctive and marketable curriculum elements.

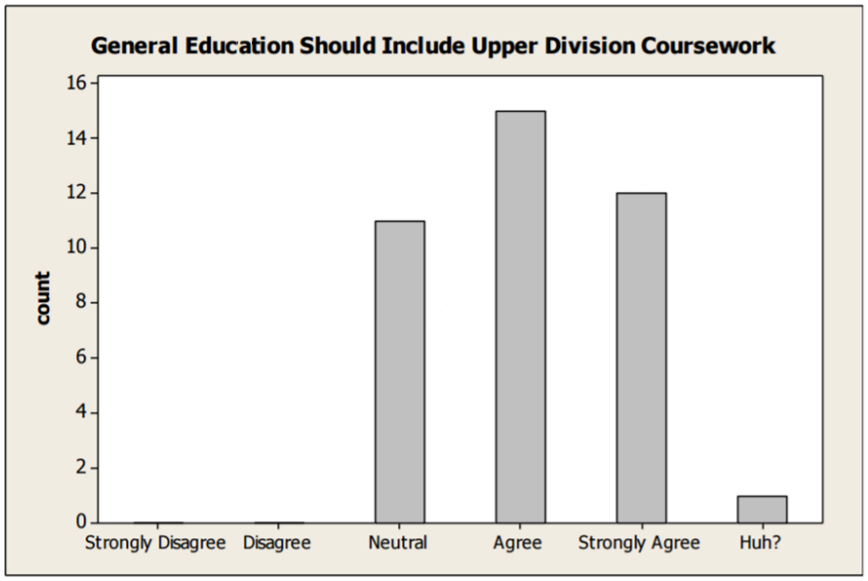
(This tension and tradeoff **already exists** between programs, too.)

Impacts should be identified, justified, and minimized – iterative testing and refinement of Essential Studies.

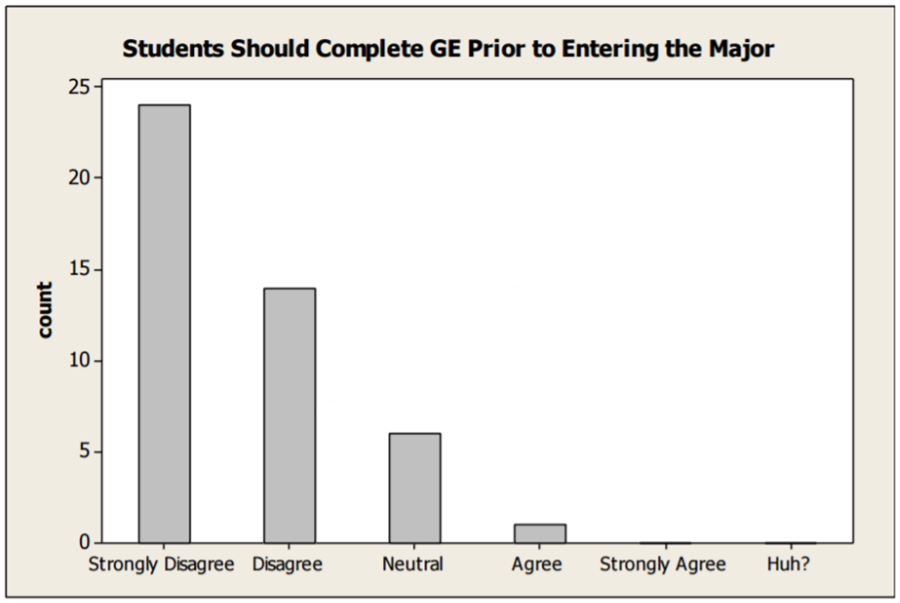
Transfer was **in mind** from the beginning.



Fall 2013 GERTF Faculty Forum survey results



Fall 2013 GERTF Faculty Forum survey results



Fall 2013 GERTF Faculty Forum survey results

Prior General Education Model

Pros: unusually large buckets makes transfer easy
Cons: poor alignment with student outcomes
(which are also workforce/employer needs)
minimal vertical development,
little integration with discipline.

36 M/S or 45 M/S/SS
(typically integrated with major requirements)

Humanities

Communication*
*WRI111, 122, SPE111, 321

Math/Science**
**1 lab science

Social Sciences

Essential Studies Model

More intentional (and smaller) bins,
aligned with outcomes,
reinforced in courses in the major,
integrated within & across disciplines.

ESSE

Disciplinary
Capstone

Synthesis

Program-
Integrated
Practice

Essential
Practice

Foundation

Communication*
*WRI121, 122, SPE111

Inquiry & Analysis**
**Hum, Soc. Sci, Nat. Sci

Ethical
Reasoning

Teamwork

Quant.
Literacy

Diverse
Persp.

Parameters for Transfer Study

Fall '16: Vetted by stakeholders (GEAC, Transfer Team, admin)

Stratified sampling: 3 groups of 30 each, Fall '16 entering students:

- Group A (direct from HS, <36 credits)
- Group B (transfer, <90 credits)
- Group C (transfer, >90 credits)

(Excluded: Postbacs, N=53 – separate policy)

90 Student ID's pulled by IR; 2048 transfer courses.
Existing degree audits tell us how these courses apply in the major.

Populations of Incoming Students, Fall 2016

~ 2,225 "new students" in all categories
(HS dual credit, non-admits, grad students, etc.)
~1040 new undergraduates:
~387 first-time freshmen:
~230 have no transfer credits (22% of new UG)
~157 have 1-36 transfer credits (**Group A**, 15% of new UG)
~600 New UG Transfers:
~209 have <90 credits (**Group B,** 20% of new UG)
~381 have 90+ credits (**Group C**, 37% of new UG)
~53 postbacs (separate policy, 5% of new UG)

Process for Transfer Study

Transfer study: How do transfer courses apply under Essential Studies (and how is that different from currently)?

To answer this:

- Every program created a draft **curriculum map** (first step towards CPC submission); ~2-4 hours/program.
- Gen ed department chairs **evaluated transfer courses** under new criteria (helps us develop clear protocols): 4 chairs, ~5-15+ hours each.
- Assembled, collated, and **analyzed data** (SA, NS, SB): 60+ hours.

Where are we not applying credits now?

6351.5 credits come in to Oregon Tech; 3091.75 are applied (48.7%)

Of the 3200+ credits that not applied:

- **No applicable category** in degree map: 1702.2 credits (Vocational: 501 credits; PE: 90 credits)
- Matches category in model, but **block is full**: 680.5 credits
- **Remedial**: 384+ credits (not counted above)
- **Fractional credit loss**: 364.5 credits
- Below the level required by a program: 230.5 credits
- Beyond the level required by a program: 165 credits
- Student has credit for course twice: 82 credits

Group A ("Direct from HS")

Locations/Modes
- Klamath Falls (28)
- Wilsonville (2)

Common Majors
- Software Engineering Technology (6)
- Pre-Medical Imaging (5)
- Biology-Health Sciences (4)
- Mechanical Engineering (4)
- Pre-Dental Hygiene (2)
- Pre-Nursing (4) – excluded

Common Transfer Institutions
- Klamath CC (4)
- Advanced Placement (4)
- Southern Oregon U (3)
- Rogue CC (2)
- Portland State U (2)
- Portland CC (2)
- Eastern Oregon U (2)
- Chemeketa CC (2)

Group A ("Direct from HS")

Average student brings in 16.5 credits.
Under old general education model, 8.7 credits (52.5%) applied:

Humanities	1.3 credits/9	(0.4 courses/3)
Communication (Lower-Division)	1.2 credits/9	(0.4 courses/3)
Communication (Upper-Division)	0.0 credits/9	(0.0 courses/3)
Social Sciences	1.5 credits/12	(0.5 courses/4)
Math/Science	4.1+ credits	(1.0 courses+)

Group A ("Direct from HS")

Average student brings in 16.5 credits.
Under Essential Studies, 7.0 credits (42.1%) applied:

	Foundation		Practicing
Communication	1.2 credits/9	(0.4 courses/3)	-
Inquiry & Analysis	1.0 credits/10	(0.3 courses/3)	-
Quantitative Literacy	0.3 credits/4	(0.1 courses/1)	-
Diverse Perspectives	0.1 credits/3	(0.0 courses/1)	-
Teamwork	-		N/A
Ethical Reasoning	N/A		-

Group A ("Direct from HS")

Where are losses in transition?
(43 credits total; 1.7 credits/student from Group A)

- Fractional Credit Loss (2 credits)
  This was mostly "hidden" fractional loss under old model, too.
- Carving up Hum block (18 credits)
- Carving up SS block (17 credits)
- 2nd year language Credits (6 credits) –
  can apply in Hum Block currently –
  matter for GEAC & ESLO cmtes to consider

Group B ("Low-Credit Transfers")

Locations/Modes
- Klamath (20)
- Wilsonville (4)
- Online (3)

Common Majors
- Dental Hygiene (4)
- Mechanical Engineering (3)
- Pre-Medical Imaging (4)
- Pre-Nursing (2) - excluded

Common Transfer Institutions
- Portland CC (4)
- Klamath CC (4)
- Oregon State U (3)
- Mt. Hood CC (3)
- Chemeketa CC (3)
- Rogue CC (2)
- Linn Benton CC (2)
- Eastern Oregon U (2)
- Clackamas CC (2)
- Central Oregon CC (2)

Takeaways from Group A

HS students seem to be taking college credits opportunistically.

GEAC and ESLO committees should consider:
- How 2nd year language applies;
- How AP courses (and IB) can apply.

Group B ("Low-Credit Transfers")

Average student brings in 61.5 credits.

Under old general education model, 33.5 (54.5%) applied:

Humanities	2.2 credits/9	(0.7 courses/3)
Communication (Lower-Division)	6.7 credits/9	(2.2 courses/3)
Communication (Upper-Division)	1.0 credits/9	(0.3 courses/3)
Social Sciences	5.5 credits/12	(1.8 courses/4)
Math/Science	8.1+ credits	(2.0 courses+)

Group B ("Low-Credit Transfers")

Average student brings in 61.5 credits.
Under Essential Studies, 30.0 (48.9%) applied:

	Foundation		Practicing
Communication	6.7 credits/9	(2.2 courses/3)	0.7 credits/3 (0.2 courses/1)
Inquiry & Analysis	4.5 credits/10	(1.5 courses/3)	-
Quantitative Literacy	0.4 credits/4	(0.1 courses/1)	0.6 credits/3 (0.2 courses/1)
Diverse Perspectives	0.6 credits/3	(0.2 courses/1)	-
Teamwork	0.2 credits/3	(0.1 courses/1)	N/A
Ethical Reasoning	N/A		-

Group B ("Low-Credit Transfers")

Where are losses in transition?
(84 credits total; 3.1 credits/student from Group B)

- Fractional Credit Loss (21 credits)
- Carving up Hum block (14 credits)
- Carving up SS block (41 credits)
- Carving up other blocks (8 credits)

Takeaways from Group B

Students are being generally strategic about CC courses;
this group is the most representative of the breadth of our majors.

We should consider:

- How to communicate transfer policies to CC students
  (more detailed transfer website and materials, esp.
  targeted for Wilsonville, Online, Seattle, Chemeketa)
- Relationships with community college advisors/influencers:
  "Thinking about Oregon Tech? Consider these courses…"
  (should align with **Interstate Passport**)
- First-year "foundational curriculum" may be mandated by HB2998.

Group C ("High-Credit Transfers")

Locations/Modes

- Klamath (13)
- Wilsonville (10)
- Online (6)
- Chemeketa (1)

Common Majors

- Mechanical Engineering (5)
- Radiologic Science (3)
- Medical Laboratory Science (3)
- Applied Psychology (3)
- Technology & Management B.A.S. (2)
- Dental Hygiene (2)
- Health Informatics (2)
- Respiratory Care (2)

Common Transfer Institutions

- Oregon State U (6)
- Portland CC (5)
- Lane CC (4)
- Klamath CC (4)
- Portland State U (3)
- Mt Hood CC (3)
- Clackamas CC (3)
- Chemeketa CC (3)
- Western Oregon U (2)
- Treasure Valley CC (2)
- Rogue CC (2)
- Columbia Gorge CC (2)
- Central Oregon CC (2)

Group C ("High-Credit Transfers")

Average student brings in 146.9 credits.

Under old general education model, 67.6 (46.0%) applied:

Humanities	6.1 credits/9	(2.0 courses/3)
Communication (Lower-Division)	6.9 credits/9	(0.8 courses/3)
Communication (Upper-Division)	2.7 credits/9	(0.9 courses/3)
Social Sciences	8.4 credits/12	(2.8 courses/4)
Math/Science	12.4+ credits	

Group C ("High-Credit Transfers")

Average student brings in 146.9 credits.

Under Essential Studies, 60.2 (41.0%) applied:

	Foundation		Practicing	
Communication	6.9 credits/9	(0.8 courses/3)	1.5 credits/3	(0.5 courses/1)
Inquiry & Analysis	7.3 credits/10	(2.2 courses/3)	0.8 credits/6	(0.3 courses/2)
Quantitative Literacy	1.3 credits/4	(0.3 courses/1)	1.3 credits/3	(0.4 courses/1)
Diverse Perspectives	1.8 credits/3	(0.6 courses/1)	-	
Teamwork	0.6 credits/3	(0.2 courses/1)	N/A	
Ethical Reasoning	N/A		-	

Group C ("Direct from HS," N=157)

Where are losses in transition?

(251 credits loss, 7.4 credits/student net loss from Group C)

- Fractional Credit Loss (58 credits)
- Carving up Hum block (69 credits)
- Carving up SS block (93 credits)
- Carving up other blocks (24 credits)
- 2nd Year Language (7 credits)

However: also **gain** of 37 credits – mainly from DP and QL slots.

Takeaways from Group C

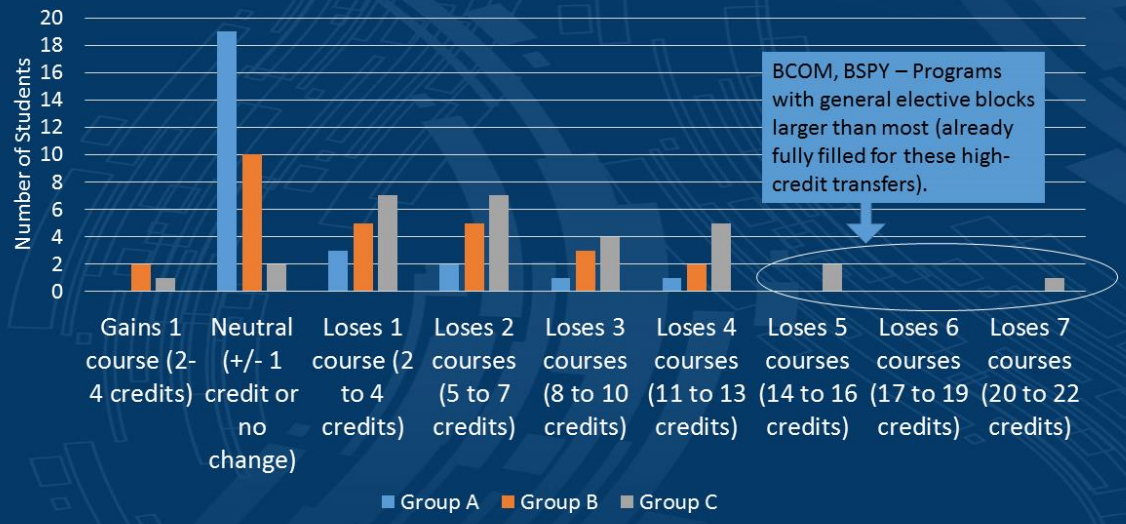
Degree of deliberate course selection here varies widely.
(e.g. lots of old credits, lots of discipline switches)

We should consider:

- What can we recognize from an Associate's Degree?
  (both an AAOT and a "regular" AS).
- Neighboring states' "transfer blocks" (CA, WA, HI)
- Year-long sequences (Essential Practice?)

Not included in this group, but: policy for post-bacs
(currently, gen ed not prescribed by program is waived)

Impact by Individual Student



Additional Opportunities

Curriculum drafts are not yet optimized.

Opportunities to move from prescribing a particular course, now that we have lists aligned with outcomes. Particularly:

- Comm – Essential Practice (moving away from just WRI227?)
- Diverse Perspectives (moving away from just Psych?)
- QL-Practice (multiple ways to get econ/finance)

Degree audits/transfer database:

- Many questions about how catalog is applied in DegreeWorks
- Prefix-based transfer categories miss some, and miscount others.

Additional Opportunities

Transfer advising:

- Consistently reviewing transcripts with advocacy lens. (advising resources and support for each location/mode?)
- Giving students tools to self-advocate and take responsibility (which also educates about outcomes and empowers students!)
- Mandating student figure out transfer applicability sooner (first two terms in program?), rather than just before grad date.

Conclusion

Essential Studies Model does what it set out to do – make general education more deliberate, focused, and aligned with outcomes. Where it has impacts, we can understand why, and those impacts support student success.

Still a number of opportunities:

- GEAC/ESLO policy questions:
  (languages, sequences, Associates, Post-Bacs)
  broad lens for applicability of courses, esp. in foundation.
- Curriculum maps (justify why a particular course)
- Degree audits/transfer database (updated in transition)
- Communication with prospective students and CCs.

Some Next Steps

- Are there other questions we can/should answer with this data?
  (This is a rich and interesting data set!)
- Policy for GEAC and ESLO committees to consider.
- Move to second draft of curriculum maps
  (conversations beginning over summer).
- Follow-up discussions on technical implementation
  (DegreeWorks and transfer database) with registrar.
- Plan alignment with SEM and OAA activities for
  CC-relationship building (great alignment with HB2998!)

Appendix L
Essential Studies Policy Recommendations

Part I: Transfer Policies (reviewed by GEAC 8 June 2017)

(Drafted in response to questions raised during the transfer

- **Courses**: If a course transfers in to Oregon Tech as a course on an Essential Studies list, it will fulfill the same slot as that course in the Essential Studies model without the need for additional review.

- **Transfer Flowcharts**:

Department chairs from the departments most closely associated with each outcome area shall make the official determination as to whether a transfer course (that doesn't have a 1:1 correspondence with a course already on an Essential Studies list) meets the criteria for an Essential Studies block.

- Communication: CM, TW, and DP courses from disciplines associated with that department
- HSS: IA-HS, IA-SS, ER, and DP courses from disciplines associated with that department.*
- Applied Math: QL
- Natural Sciences: IA-NS

[Note: A practice for handling potential diverse perspectives courses that don't fall into traditional HSS or Comm course prefixes will need to be vetted with HSS and Comm chairs.]

In order to assist the registrar's office and department chairs in recognizing these courses, "flowcharts" are being developed by relevant ESLO faculty learning communities (particularly IA and DP) to help educate chairs, clearly state the assumptions being made and assist them in unambiguously recognize courses as qualifying for those blocks. (e.g. that a course can be considered for Essential Practice-Level because it has a Foundational-level prerequisite). [Note: Future work will expand these flowcharts to all outcome areas, vet them with department chairs and the registrar's office for reliability and ease of use, and make them available on Oregon Tech's transfer website.]

Recognizing that, in some cases, course syllabi may need to be consulted, but seeking to minimize the degree to which this is necessary, the goal for these flowcharts is to make determinations whenever possible based on readily available information (course number, title, description), and is in good faith and collegial recognition of the good work done by our faculty colleagues at other institutions.

While department chairs retain formal authority on course approvals, they are encouraged to seek out additional expertise from content area experts and ESLO faculty learning communities where needed (or, consistent with current practice, to delegate these determinations).

The Office of Academic Excellence will work with the registrar's office to coordinate annual conversations in which ESLO faculty learning communities can offer input on transfer determinations.

- **AAOT**: The "lower division general education" block defined for Interstate Passport shall also be the block deemed completed by students who transfer to Oregon Tech with the AAOT (Associate of Arts – Oregon Transfer Degree), unless those general education blocks are prescribed by the students' major.

  [Note: There may be need for further discussion surrounding the applicability of the Oregon Transfer Module; that discussion may also become more moot depending on the outcome of transfer-related legislation (HB2998). Additional discussions may also be warranted about non-AAOT Associate's Degrees and "transfer blocks" from neighboring states (CA, WA, HI).]

- **Policy for post-bacs**: Individuals seeking a bachelor's degree from Oregon Tech who have completed a bachelor's degree at another accredited institution shall be deemed to have completed all general education requirements not prescribed by the major, with the exception of the ESSE****, which is a distinctive hallmark of the Oregon Tech experience.

  [Note: As the ESSE continues to be better-defined and clarified, GEAC will revisit this recommendation.]

- **Transfer clause**: In recognition that transfer students are likely looking at the current curriculum map in making their course selection, transfer students who enter after Essential Studies during a period of 3***** years may use the previous curriculum map using the old general education model.

  [Note: This timeline is meant to mirror the timeline for articulation agreements, which can be used by students for three years after they take effect. Further follow-up on this timeline recommendation, particularly with Admissions, is desired.]

  This means that, if Essential Studies hits catalog in Fall 2018, a transfer student (N2) who enters Oregon Tech at or before Fall 2021 may opt to use the 2017-2018 (pre-Essential Studies) curriculum map and general education requirements. (This is similar to articulation agreements, which include the clause "Students must enroll at Oregon Tech within three years of this approval [of the articulation agreement].")

  [Note: Although transfers may be able to opt in to either curriculum map, a "default" option will still need to be selected (as transfer advising processes are improved, this decision could be folded in to those).]

Part II: Policies for Oregon Tech Courses (reviewed by GEAC 15 June 2017)

(Drafted in response to inquiries made during course submission and curriculum mapping.)

Prerequisites

Question: Will we mandate prerequisites for foundation → practicing pathways? Will we mandate prerequisites for program-integrated courses?

Answer: GEAC trusts faculty and departments to set meaningful prerequisites that are optimal for supporting student success. For Essential Practice courses and Program-Integrated Practice, we strongly recommend a prerequisite of at least one Foundational course in the relevant outcome area, but recognize that it may not be desirable or practical to add such a prerequisite as part of the initial course and curriculum approval process. (The impact of different types of foundational preparation can also be evaluated as part of the assessment process.)

We also recognize that a 300-level course number or higher serves as a signal to students that an advanced level of preparation is desirable and may implicitly reinforce proper sequencing along outcome pathways. Additionally, advising tools such as curriculum maps should place foundational coursework as early as practical in order to signal to students the optimal times and orders in which to take Foundational and Practicing-level courses.

Course Numbers

Question: Do we want to mandate that foundation or practicing courses fall in certain numerical ranges? (e.g. Foundation: 1xx, 2xx, 3xx; Practicing: 2xx, 3xx, 4xx)

Answer: Approval of a course as Foundational or Essential Practice should not be contingent on course number, but primarily on course content and outcomes. However, GEAC expects that Foundational courses will most often have 100-level and 200-level numbers, whereas Essential Practice courses will most often have 300-level numbers and higher. As courses are revised or new courses are created, there should be gradual movement to give Essential Practice courses 300-level numbers (with the main exception possibly being Essential Practice courses that are part of a 200-level course sequence, where the first course in the sequence is Foundation).

Use of Essential Practice Courses as Foundational

Question: Since some courses might achieve practicing-level criteria without prerequisites in that outcome area (e.g. PHY221), can Essential Practice be a subset of Foundation?

Answer: Although we do not anticipate this occurring often, a course fulfilling Essential Practice requirements might be used to fulfill a Foundation requirement, if it also meets the foundational requirements, but this should be handled on a case-by-case basis if such a substitution is needed. Courses that are part of sequences should strongly consider tagging the first course as Foundation and a subsequent course as Essential Practice.

A related situation might arise if a student transfers in a Diverse Perspectives Essential Practice course, but not a Foundational level course. There would be little justification for asking a student to go back and complete additional foundational-level work when the student has already completed more advanced work; however, the student would still need to complete an additional Essential Practice course to fulfill that requirement.

Sciences List

Question: The Essential Practices block for the IA-Sciences was described in the GERTF final report as requiring courses "outside of areas that traditionally support the major." How can we more clearly define this?

Answer: We agree that GEAC needs to set a clear definition for this prior to program mapping. (e.g. – for an engineering major, could they apply a physics course to this block? Any natural science course?)

Depending on how this stipulation is defined or refined, this may have an impact on whether a curriculum map's conversion to Essential Studies is credit-neutral. During Summer 2017, a thorough review of programs' curriculum maps (with consultation program faculty, if possible) will help suggest parameters for specifying this requirement that balance the goals of:

- exposing students to a range of disciplines and modes of inquiry,
- integration of outcomes with course sequences that are foundational for programs,
- maintaining credit neutrality in converting maps to Essential Studies.

Armed with this data, GEAC will then be able to revisit this question at the start of Fall 2017.

Part III: Questions Related to Individual ESLO Pathways

(responses submitted by ESLO committees, Spring 2017)

For Communication ESLO committee:

Question: Many programs are interested in specifying a course that best prepares students for communication within their discipline/profession; can you share high-level detail on the options being developed by the Communication department in this direction?

Answer: "The course list from Appendix G represents all of the courses that have been submitted for approval. Based on feedback from GEAC, the COM ESLO committee, and the degree programs, the Communication department has plans to develop and submit two courses in the Fall 2017 term (WRI 3xx: Writing in the Health Sciences, and WRI 3xx: Writing in Engineering), with pilot offerings scheduled for the Winter and Spring 2018 terms."

Question: Will new COM electives (generally) be 300-level? At present, a number of programs slot WRI227 in the first year, which is not ideal. Use of higher numbers for practicing-level COM would help signal the "right place" in the curriculum for them to sit.

Answer: "All currently planned additions to the COM ESLO Essential Practice list are 300+ level courses.

WRI 227 will not be renumbered. WR/WRI/EN 227 is the common course number used in Oregon public universities and community colleges for an intermediate-level technical communication course, so renumbering WRI 227 would likely lead to confusion in the transfer approval process. However, the Communication department plans to make substantial changes to the structure of the course (and potentially resubmit for approval) during the Fall 2017 term; the planned changes will both enable the course to integrate more gracefully with most degree programs' first- and second-year curricula, and bring the course in line with other WR/WRI/EN 227 courses throughout the state (easing transfer approval)."

For Inquiry & Analysis ESLO committee:

Question: Can we solicit (or explain why we can't include):

For Foundation:

- BIO 105; Human Anatomy & Physiology

For Essential Practice:

- ECO201/202 (would be great for a double-dip with QL).
- More from the Natural Sciences Department at the practicing level.
- ANTH 452;
- BUS213, 316, 317

Answer: "Additional courses such as the above should be submitted for IA approval." [Note: This is consistent with notes in Appendix G; we expect substantial additional submissions to build out the IA list, particularly at the Practicing level.]

For Ethical Reasoning ESLO committee:

Question: Two programs have identified foundational courses with other tags as their program-integrated ethical reasoning foundation (Psychology identified PSY 203; PHM identified SOC 204). Is this a problem as long (as long they don't double dip)? Could other programs use these courses as program-integrated ethics or not?

Answer: "We agreed that there would be no issues with other programs using the program integrated course of other programs (or other programs identifying two courses that could meet that outcome as long as they are not double-dipping and especially if they are related programs."

Question: A few programs had trouble identifying an appropriate course within their program. Can we prepare examples and suggestions for them?

Answer: "The committee thoughts that instead of coming out with some basi suggestions for programs having difficulty identifying a foundational course in their program, that the committee should meet with these programs to help them better understahdn the ESLO and pick an appropriate course to meet that outcome. This activity seems like a probable core activity for the future of the committee as it currently stands."

For Quantitative Literacy ESLO committee:

Question: Would it be possible to consider MATH 465 for QL foundation and/or articulate why not? Any alternatives that the committee can recommend?

Answer: "There are several reasons why the committee does not believe that Math 465 is an appropriate foundation level course.

> (a) While the course is titled \Mathematical Statistics" it is, in fact, a probability course which contains relatively little material on formal statistics. Historically, this was because it is the first in a three course sequence on mathematical statistics, and so addresses the probability theory that is the foundation of the statistics. That statistics content would then appear in follow-on courses that do not, at present, exist at this university.
>
> (b) The material is generally presented as either theoretical or industrial/applied. It is, in short, a course for technical majors supporting material that appears in their programs. It is not a course for furthering the civic and personal quantitative literacy of our students, which is the aim of a foundational course.
>
> (c) Finally, most students take this class late in their career – often in their senior year. Foundational courses are supposed to provide a foundation for further learning in the student's college career. It follows that they should generally be taken early in the student's career. This further strengthens the argument that Math 465 is really a program-integrated course, not a foundational course."

Question: Why is appropriate to have a 300-level course at the "foundational" level? (this is tied to the GEAC question about appropriate course numbers).

Answer: It is unfortunately the case that the numbering of courses is determined more by historical accident than as the result of rational thought. One of our foundational courses (Math 361) is quite elementary, and is often cross-listed with 200 level courses at other schools. The reason it is listed as a 300 level course at OIT has to do with accreditation, and while there have been recent efforts to change it to Math 261, the status quo has considerable inertia.

We note that it is common for 300 level courses at this university to have few, if any, prerequisites. Just to single out one other department, Bus 309, 331, 337, 345, 347, and 350 all have no listed course prerequisite of any kind. Course number is simply a very poor guide to where a course stands in a student's progress toward their degree. It is better, we suggest, to consider rather the diffculty of the material, what earlier material it builds on, and what year, typically, the course is taken."

Question: Can the following courses be considered for QL list: (or explain why it's not appropriate)?

Answer: "First we would like to reiterate that the foundational and required practicing QL courses should not just display appropriate QL content, but also in the civic and personal context. After long discussion, the QL committee has decided to interpret this as meaning courses that address basic statistics (our foundational level courses) or basic finance (our required practicing courses). We chose these as subjects that *all* of our students will have to deal with in their life after school.

With that in mind, the suggested courses were:

(a) CHE/PHY courses - Wonderful courses, to be sure, having lots of great QL content. But not in the personal or civic context, as we've defined it.

(b) BUS 349, MIS255, MIS357 (requested by Medical Laboratory Science) - Again, apparently very nice courses with QL content, but seemed to us to be narrowly focused on a particular discipline. They would probably be good program-integrated courses, again not really QL in the personal or civic context.

(c) ACC 201/203 (requested by Dental Hygiene) - Here we were convinced that these courses could, in fact, be reasonable candidates for required practicing QL. Applications for these courses have been solicited, and we hope to add them to the list early in the Fall."

For Diverse Perspectives ESLO committee:

DP1) Can we solicit:

- ANTH 452 (many engineering programs require this)
- SOC 325/335 (wanted by Dental Hygeine)
- PSCI 326 (wanted by Operations Management).

Answer: "We all agreed that the first three courses on this list should be solicited for applications. PSCI 326 doesn't seem to exist in the catalog, and so we weren't sure if this course still existed or where the request to tag it even came from."

Part IV: Draft Transfer Flowchart for Diverse Perspectives

(provided by Diverse Perspectives committee, 14 June 2017)

Questions For the Registrar

1. Is the incoming course tagged with it's university's equivalent of a "diversity," "non-Western perspectives" or "cultural awareness" tag?
    a. If YES, tag as Foundational Diverse Perspectives OR progress to question 4 if evaluating for Practicing Diverse Perspectives.
    b. If UNSURE, proceed to question 2.
    c. If NO, proceed to question 2.
2. Does the course title or description contain any of these keywords: **[race, class, gender, diversity, culture...this list of keywords needs to be fleshed out in a later draft]**?
    a. If YES, forward the course to the appropriate department chair.
    b. If UNSURE, forward the course to the appropriate department chair.
    c. If NO, reject the course for a Diverse Perspectives tag.

Questions For the Appropriate Department Chair

3. Do the course title and description suggest that the student is expected to learn factual information about a diversity of perspectives* on the course's subject?
    a. If YES, tag as Foundational Diverse Perspectives OR progress to question 4 if evaluating for Practicing Diverse Perspectives.
    b. If UNSURE, forward the course to the Diverse Perspectives ESLO Committee Chair for a final decision.
    c. If NO, reject the course for a Diverse Perspectives tag.
4. Do the course title and description suggest that the student is expected to put their understanding of diverse perspectives in practice through their work in the course?
    a. If YES, tag as Practicing Diverse Perspectives.
    b. If UNSURE, forward the course to the Diverse Perspectives ESLO Committee Chair for a final decision.
    c. If NO, reject the course for a Practicing Diverse Perspectives tag.

Questions For the Diverse Perspectives ESLO Committee

In the instances where the Department Chair is UNSURE of the answer to the determining question (question 3 for Foundational courses and question 4 for Practicing courses), the committee will consider the same questions as the Department Chair (3 and 4 above), but will make the final decision.

* "A diversity of perspectives" may include (but is not limited to) customs, practices, histories, methodologies, and other viewpoints of various cultures, individuals, and identities spread across different times and/or geographic locations.

Appendix M
Draft Interstate Passport Block
(reviewed by GEAC 18 May 2017)

"Interstate Passport is a program that facilitates block transfer of lower-division general education based on learning outcomes and proficiency criteria. It comprises learning outcomes in nine knowledge and skill areas developed by faculty at institutions in multiple states, as well as an academic progress tracking system, designed by registrars and institutional researchers, for Passport transfer students. The goal of the Interstate Passport is to eliminate transfer students' unnecessary repetition of learning previously achieved." - http://www.wiche.edu/passport/home

In March 2017, Oregon Tech received a small grant from the Oregon HECC to incentivize faculty work in drafting "Passport blocks" – identifying Oregon Tech courses that meet Passport outcomes (outbound blocks) and identifying Essential Studies requirements satisfied by Passport (inbound blocks).

We anticipated that this work would be straightforward, given Oregon Tech's robust discussions about learning outcomes over the past several years alongside the GERTF review and, in particular, ESLO committees' work in course approval during the 2016-2017 year.

A team of representatives from relevant ESLO committees was recruited to lead discussions regarding alignment between Interstate Passport:

- Seth Anthony, GEAC Chair
- Ryan Madden, Humanities & Social Sciences
  (Inquiry & Analysis ESLO committee; former member, Diverse Perspectives ESLO committee)
- Hui-Yun Li, Natural Sciences (Inquiry & Analysis ESLO committee)
- Trevor Petersen, Humanities & Social Sciences (Teamwork ESLO committee)
- Randall Paul, Mathematics (Quantitative Literacy ESLO committee)
- Matt Search, Communication (Communication ESLO committee)

These individuals worked during Spring 2017 to first tentatively identify possible alignments between Interstate Passport outcomes and Essential Studies outcomes. These potential alignments were then vetted by members of this group with ESLO committees and other interested parties, then assembled and vetted by GEAC in May 2017.

This process found excellent overall alignment between Essential Studies outcomes and Interstate Passport outcomes, demonstrating the desirability to further explore becoming a Passport institution.

The draft recommendation (with additional areas for further work) is included on the following page. Additional desirable parties for review prior to implementation:

- Essential Studies Transfer Team (which includes general education department chairs and representation from the Registrar's Office)
- Coordination with the Provost's office will be needed to chart a path towards Oregon Tech becoming a Passport institution.

Interstate Passport Block	**Essential Studies Outbound Block** (what OIT courses here fulfill these Passport Requirements for students transferring out of Oregon Tech)	**Essential Studies Inbound Block** (what Essential Studies requirements -- not prescribed by programs – are deemed met if a student comes to OIT with a completed Passport)
Oral Communication	**Communication – Foundation** (entire block)	**Communication – Foundation** (entire block)*
Written Communication		
Quantitative Literacy	**Quantitative Literacy – Foundation**	**Quantitative Literacy – Foundation****
Natural Sciences	**2 IA-Natural Sciences-Foundation** one from physical sciences, one from life sciences.	**IA-Natural Sciences-Foundation**
Human Cultures	**IA-Social Sciences-Foundation** + **Diverse Perspectives-Foundation**	**IA-Social Sciences-Foundation** + **Diverse Perspectives-Foundation**
Creative Expression	Outbound option 1:*** one course meeting all elements, such as the "Design Arts and Aesthetics" Outbound option 2:*** one IA-H-Foundation + one "creative"/"performance" art course	**IA-Humanities-Foundation**
Human Society and the Individual	**IA-Social Sciences-Foundation** and **IA-(Social) Sciences-Essential Practice**	**IA-Social Sciences-Foundation** and **IA-Sciences-Essential Practice**
Critical Thinking	(Completed by virtue of having completed the other requirements, including **all IA-Foundation** and one **IA-Essential Practice**)	(Includes requirements that complement and reinforce IA outcomes.)
Teamwork	**Teamwork-Foundation**	**Teamwork-Foundation**

* Comm ESLO Committee has expressed concern that, while Passport outcomes are well-aligned with the outcomes of this foundational block, some courses identified by Passport institutions are not. Further discussion with the Comm department has been suggested.

** QL ESLO Committee has concerns about allowing Passport's QL outcome to count in place of Oregon Tech's QL-Foundation statistics requirement. Further discussion surrounding the core rationale for this block (QL or QL+Statistics) will be required.

*** Course lists will need to be clearly defined for these in collaboration with the HSS department.

Required to complete passport: (36-39 credits)

- Communication – Foundation (9 credits)
- Diverse Perspectives – Foundation (3 credits)
- Inquiry & Analysis – Foundation (all 3 areas)
  (14-17 credits, depending on how Creative Expression is fulfilled)
- Inquiry & Analysis – Sciences Essential Practice (3 credits)
- Quantitative Literacy – Foundation (4 credits)
- Teamwork – Foundation (3 credits)

Credit granted for Passport: (32 credits; "lower-division general education")

- Communication – Foundation (9 credits)
- Diverse Perspectives – Foundation (3 credits)
- Inquiry & Analysis – Foundation (all 3 areas) (10 credits)
- Inquiry & Analysis – Sciences Essential Practice (3 credits)
- Quantitative Literacy – Foundation (4 credits)
- Teamwork – Foundation (3 credits)

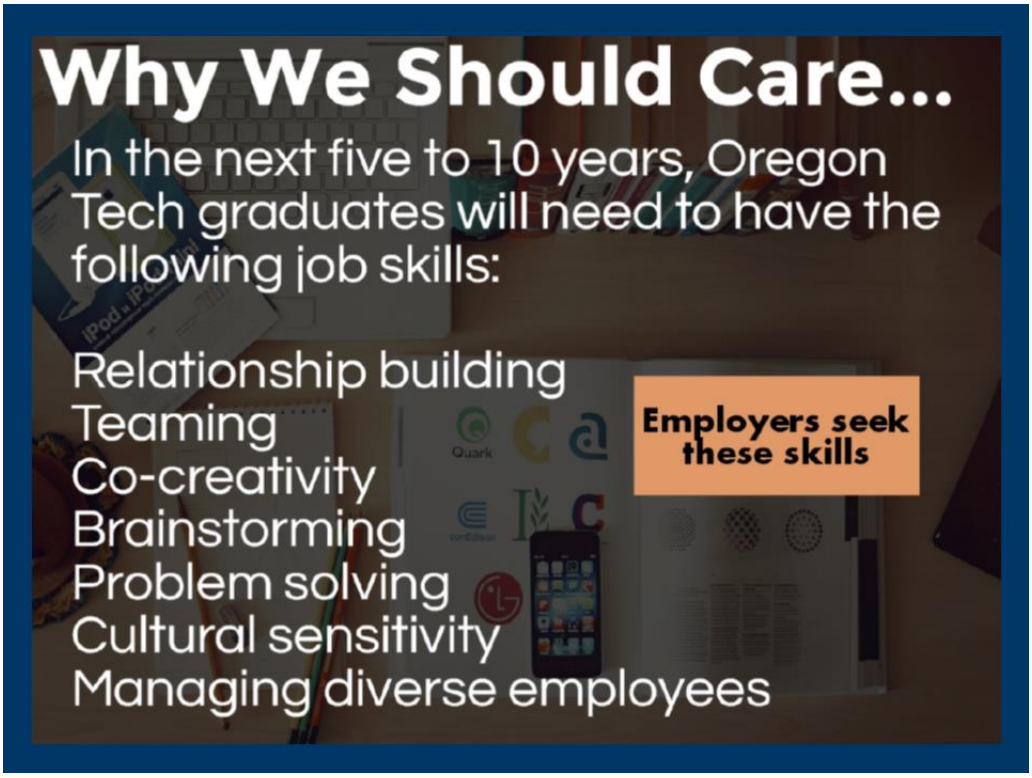
Not included in Passport: ("upper-division general education")

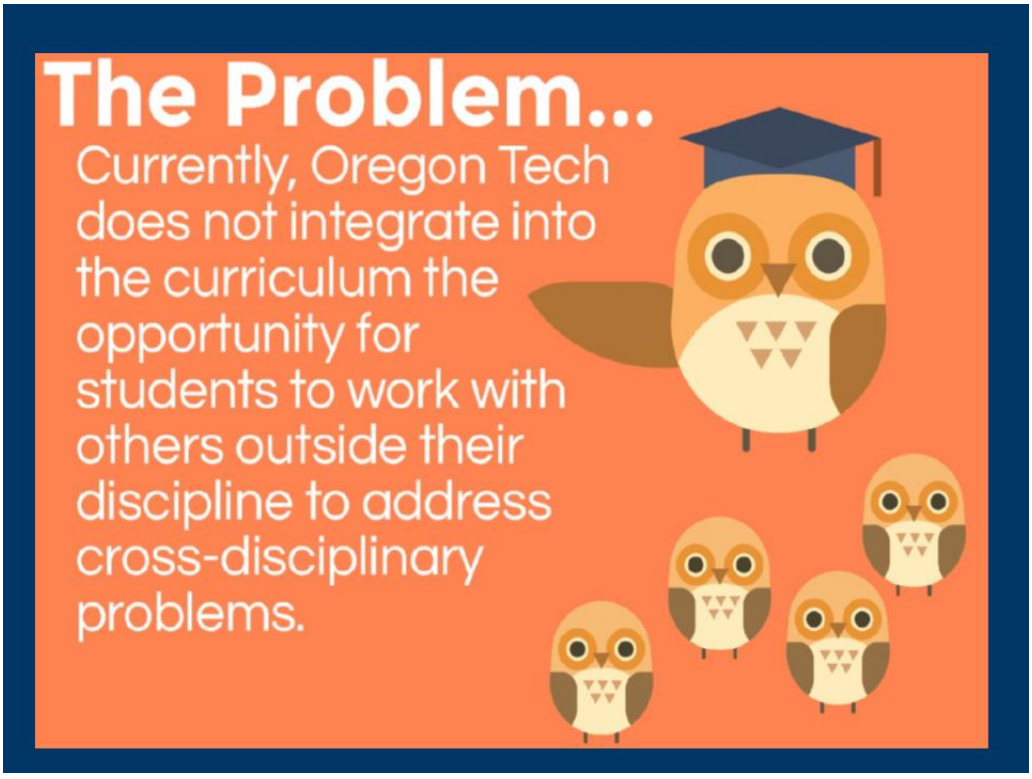
- Inquiry & Analysis – Humanities – Essential Practice
- Diverse Perspectives – Essential Practice
- Ethical Reasoning – Essential Practice
- Communication – Essential Practice
- Quantitative Literacy – Essential Practice
- Essential Studies Synthesis Experience (ESSE)

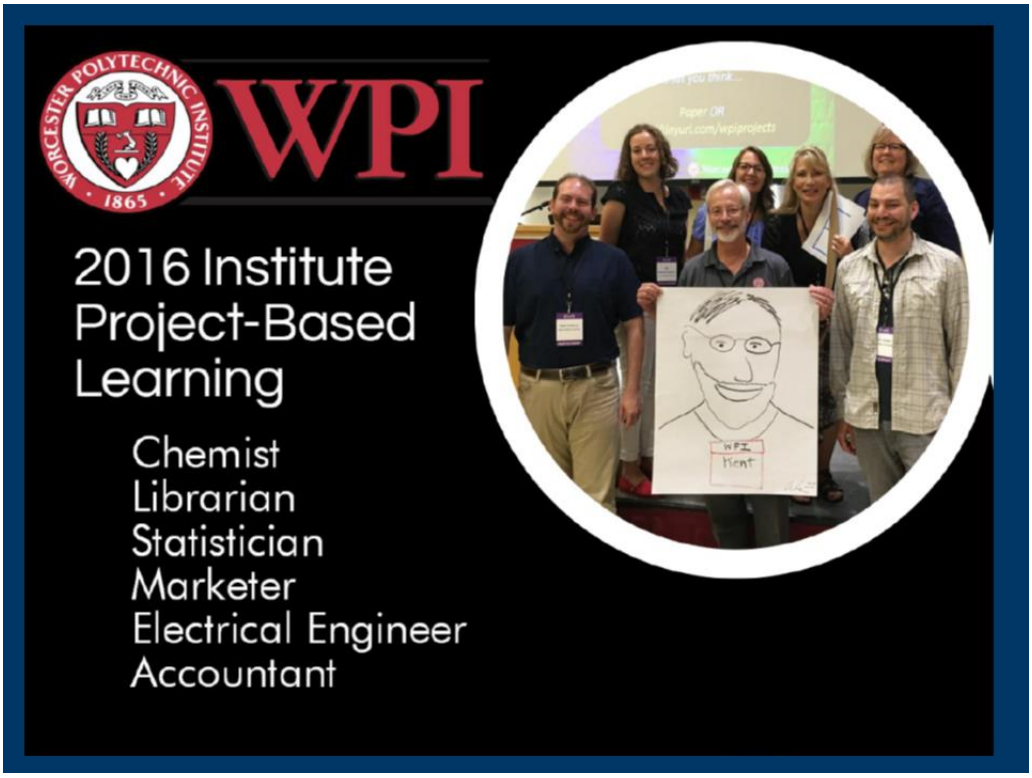
(Note: Ethical Reasoning – Foundation is also not included in passport, but this requirement is program-integrated).

Appendix N
Draft ESSE Parameters and Pilot ESSE Approval Form

(Presentation as delivered at Convocation in September 2016; form developed by ESSE team January 2017)


Why We Should Care...
In the next five to 10 years, Oregon Tech graduates will need to have the following job skills:
Relationship building
Teaming
Co-creativity
Brainstorming
Problem solving
Cultural sensitivity
Managing diverse employees
Employers seek these skills

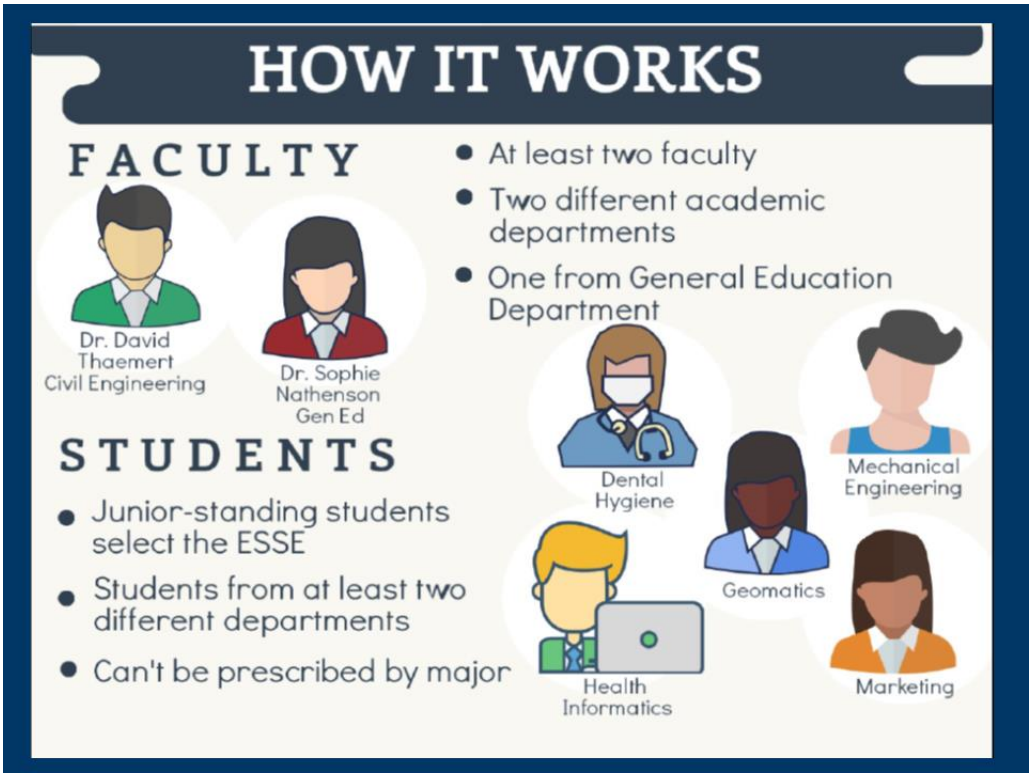

The Problem...
Currently, Oregon Tech does not integrate into the curriculum the opportunity for students to work with others outside their discipline to address cross-disciplinary problems.

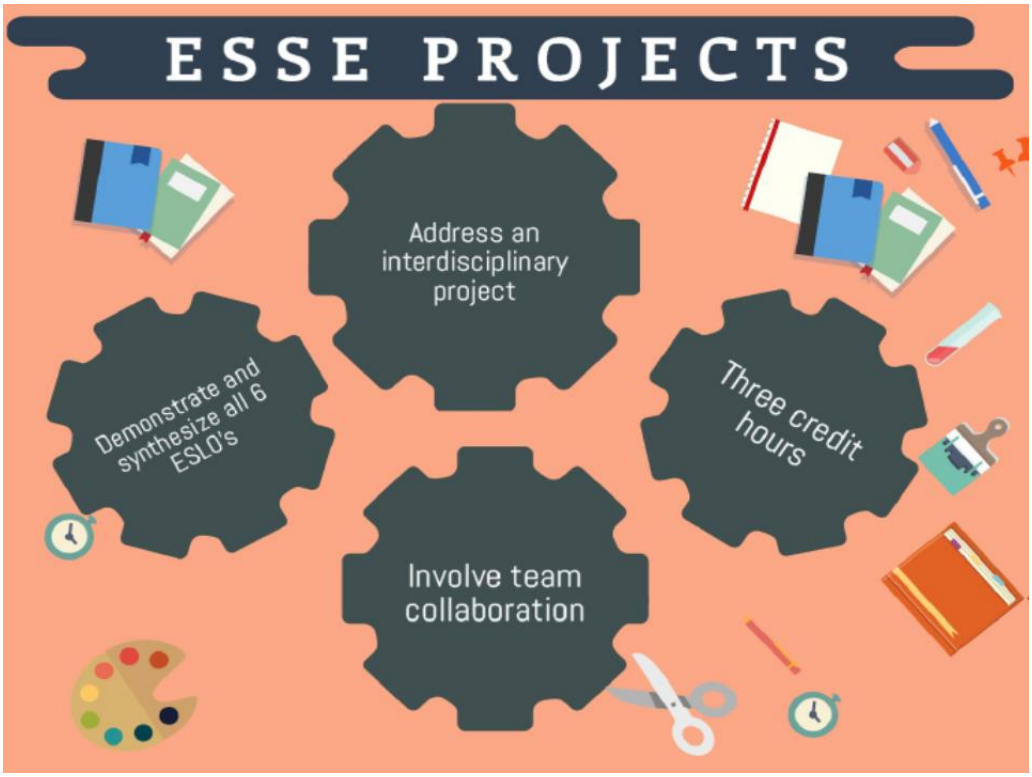


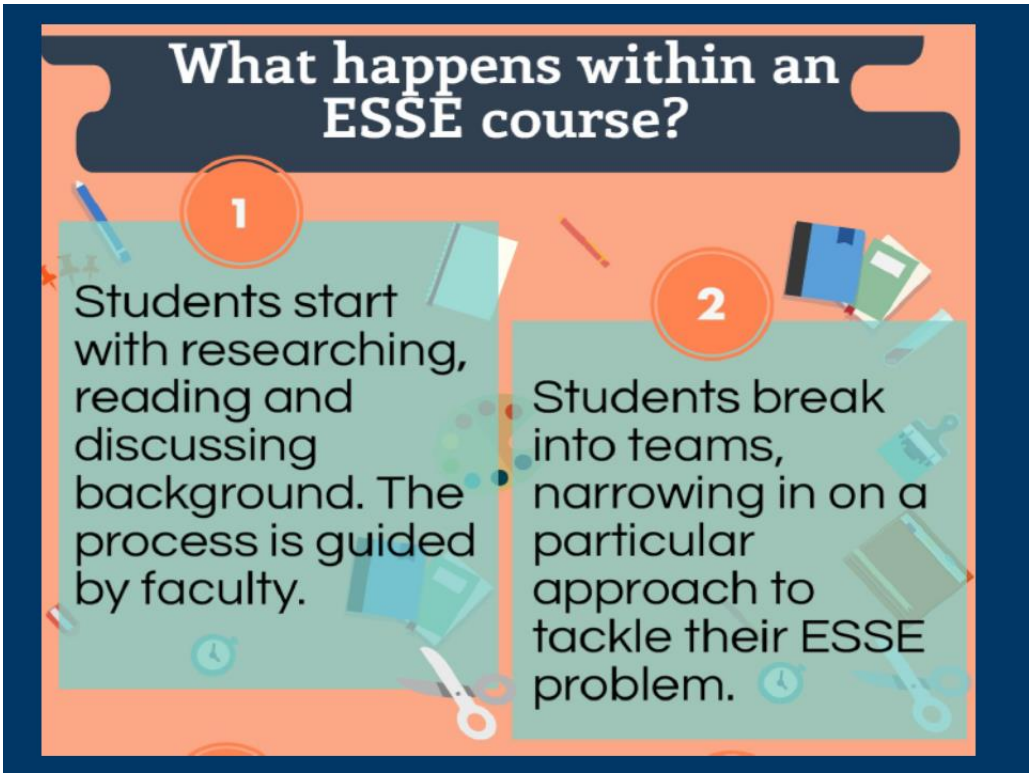
The Solution

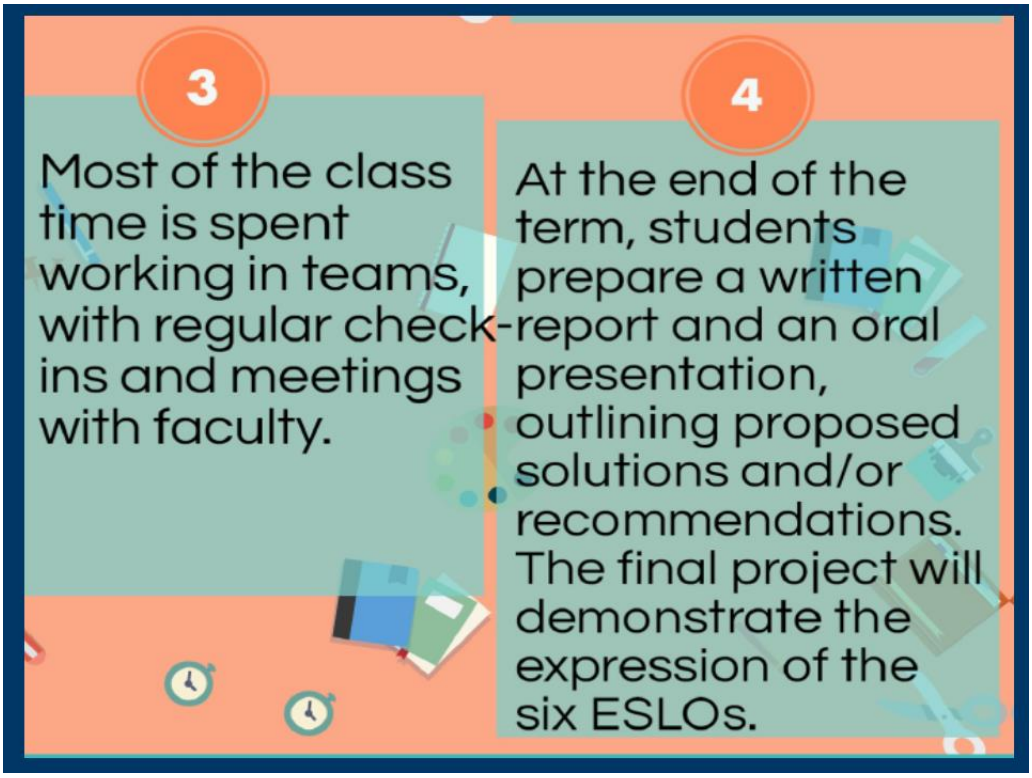
The ESSE provides students with a project-based course that prepares them for a complex society where they will be expected to collaborate and problem-solve with diverse individuals.

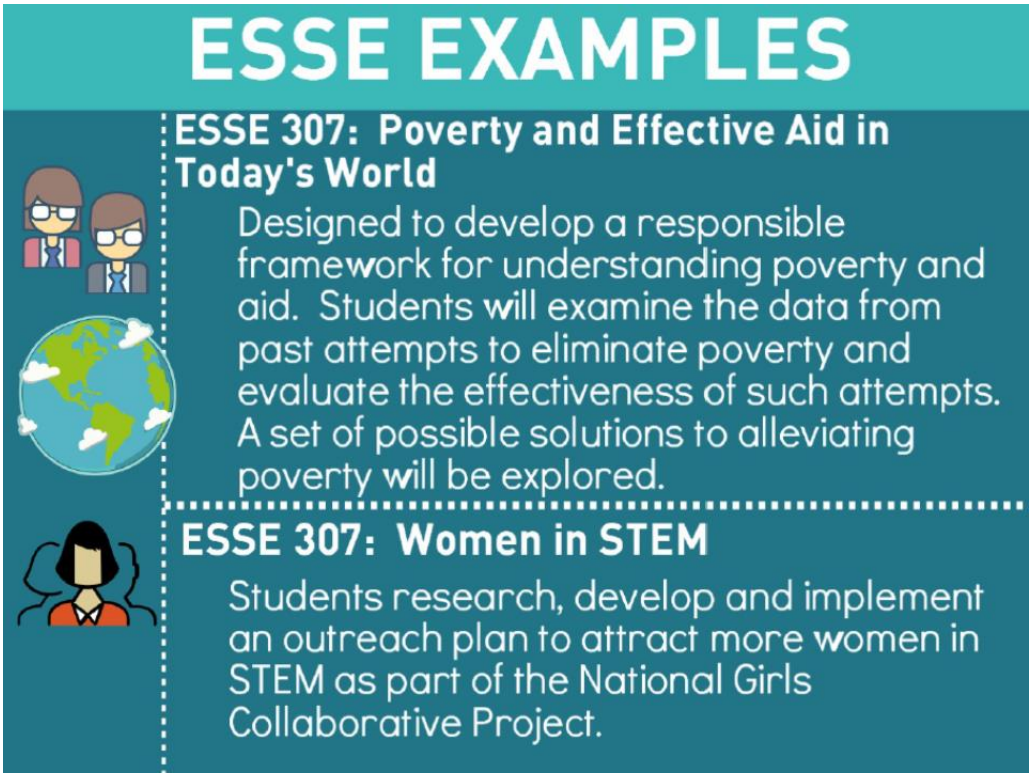
6 ESLOs
Teamwork
Communication
Diverse Perspectives
E S S E
Ethical Reasoning
Inquiry & Analysis
Quantitative Literacy


HOW IT WORKS
FACULTY
Dr. David Thaemert
Civil Engineering
Dr. Sophie Nathenson
Gen Ed
At least two faculty
Two different academic departments
One from General Education Department
STUDENTS
Junior-standing students select the ESSE
Students from at least two different departments
Can't be prescribed by major
Dental Hygiene
Mechanical Engineering
Geomatics
Health Informatics
Marketing

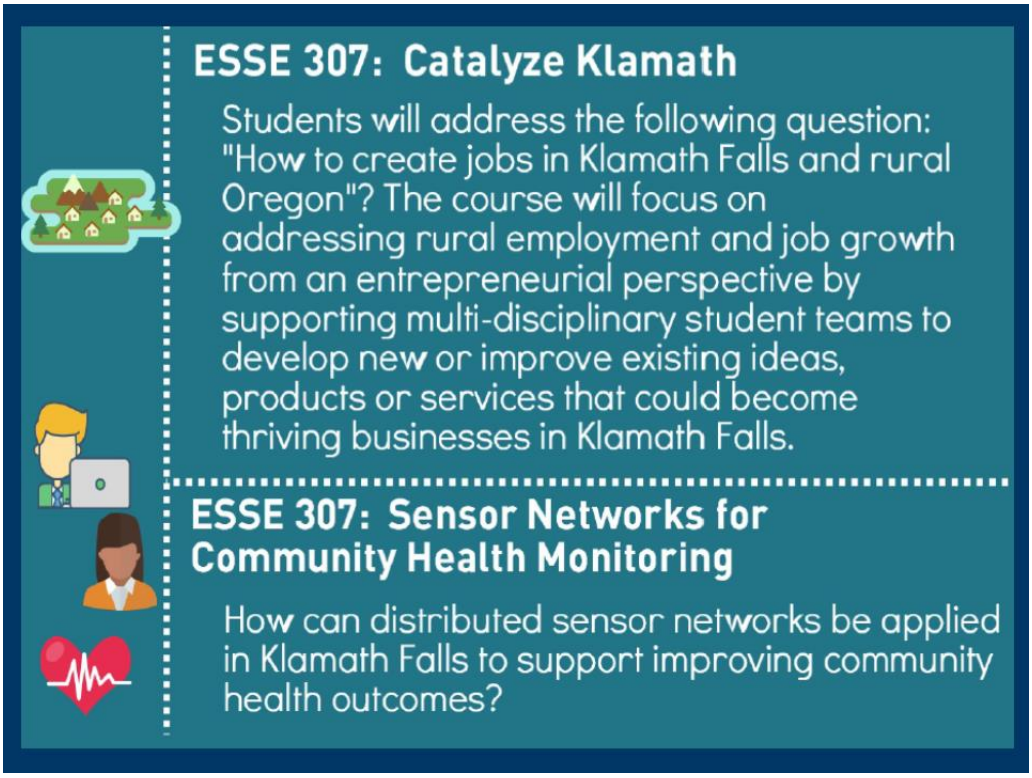

ESSE PROJECTS
Address an interdisciplinary project
Demonstrate and synthesize all 6 ESLO's
Three credit hours
Involve team collaboration


What happens within an ESSE course?
1
Students start with researching, reading and discussing background. The process is guided by faculty.
2
Students break into teams, narrowing in on a particular approach to tackle their ESSE problem.


3
Most of the class time is spent working in teams, with regular check-ins and meetings with faculty.
4
At the end of the term, students prepare a written report and an oral presentation, outlining proposed solutions and/or recommendations. The final project will demonstrate the expression of the six ESLOs.

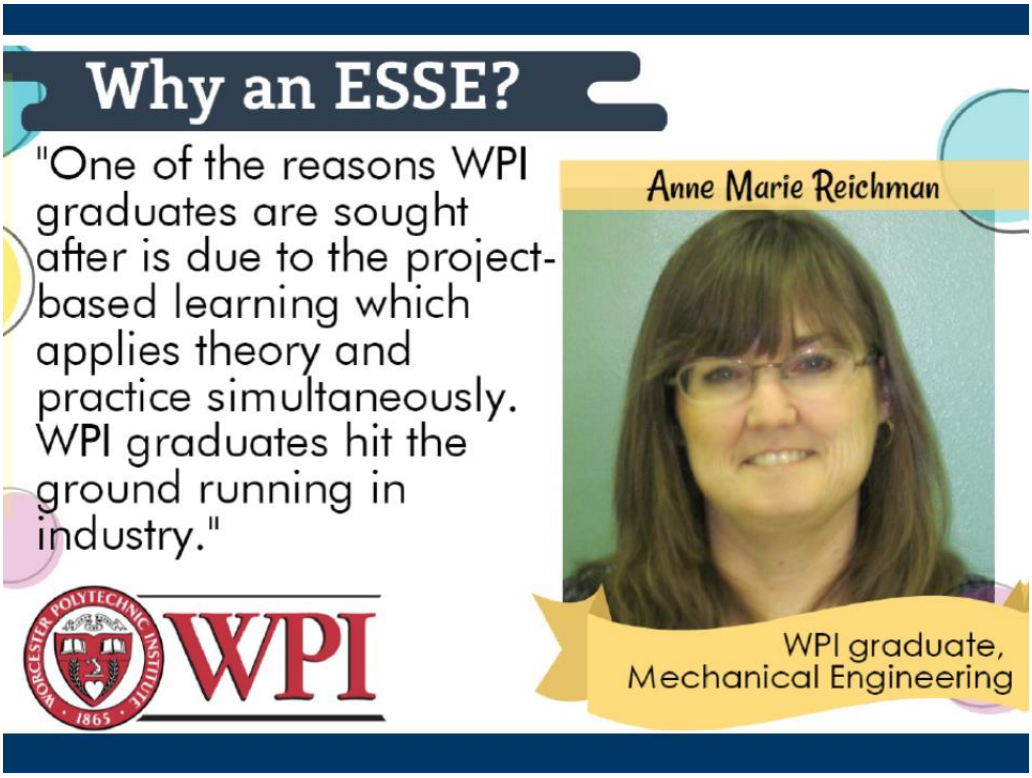

ESSE EXAMPLES
ESSE 307: Poverty and Effective Aid in Today's World
Designed to develop a responsible framework for understanding poverty and aid. Students will examine the data from past attempts to eliminate poverty and evaluate the effectiveness of such attempts. A set of possible solutions to alleviating poverty will be explored.
ESSE 307: Women in STEM
Students research, develop and implement an outreach plan to attract more women in STEM as part of the National Girls Collaborative Project.

ESSE EXAMPLES
ESSE 307: Oregon Tech Makerspaces
Students research what makes for successful makerspacers and develop a makerspace plan for Oregon Tech. Students examine and address issues related to makerspaces including governance, funding, tools, safety, marketing, organization, operation, access, layout, and curricula integration.
ESSE 307: Oregon Tech STARS
Students collect and document data for Oregon Tech Sustainability, Tracking, Assessment, and Rating System (STARS) report, as a way to understand how the university is doing with sustainability and pinpoint areas for improvement.


ESSE 307: Catalyze Klamath
Students will address the following question: "How to create jobs in Klamath Falls and rural Oregon"? The course will focus on addressing rural employment and job growth from an entrepreneurial perspective by supporting multi-disciplinary student teams to develop new or improve existing ideas, products or services that could become thriving businesses in Klamath Falls.
ESSE 307: Sensor Networks for Community Health Monitoring
How can distributed sensor networks be applied in Klamath Falls to support improving community health outcomes?

ESSE 307: International Experience
Students from various majors investigate the following question:
How can community-development projects in other countries maintain those projects for long-term success?

Why an ESSE?
"With a project like this you are interacting in a very interdisciplinary way by bringing together a team of different majors to solve a problem that is very real."
WPI
Katie Picchione
2016 WPI graduate, Mechanical Engineering


Why an ESSE?
"One of the reasons WPI graduates are sought after is due to the project-based learning which applies theory and practice simultaneously. WPI graduates hit the ground running in industry."
WPI
Anne Marie Reichman
WPI graduate, Mechanical Engineering

Employer
Student
Increases Oregon Tech's Value Proposition
Students have applicable, cross-disciplinary real-world experiences that employers value.
Oregon TECH

Competitive Advantage
Oregon Tech graduates have one more advantage in a highly-competitive job market to differentiate themselves from other applicants.
Oregon TECH

Oregon Tech Moves Up in U.S. News & World Report Rankings as Best West Regional College and Top Engineering Programs
My Oregon TECH is rated
No. 1 Top Public West Regional Colleges
No. 2 Best West Colleges for Veterans
No. 3 Best West Regional Colleges
No. 35 Best Engineering Programs
U.S. News and World Report

Questions Posted by Faculty in response to ESSE presentation at convocation

(some of which still need to be addressed in collaboration with administration)

Launching the ESSE:

- How will the university contribute to the groundwork and funding that may be needed to make ESSE projectors come to fruition?
- How many pilot ESSE's will be completed before making decision?
- Who will assess these pilot courses?
- What will be the process by which a proposed ESSE is approved?
- How do we migrate for our traditional junior year capstone to a cross-disciplinary ESSE model?
- Have a general education faculty member head up a few ESSE's who guides program faculty through process. Basically general education person has the model and incorporates expertise of program faculty but reducing the amount of time they need to do for ESSE course planning?

Faculty time:

- Will faculty teaching ESSE projects get course release to allow them time to create quality offerings?
- How does ESSE's collaborative teaching deal with the fact that many general education faculty are already teaching out of load to meet current demands?
- If one faculty member must be general education, then an engineering professor couldn't team up with management, or CLS, or Psychology, etc?
- How does workload relate to ESSE's when you have 2 faculty or more?

About the ESSE:

- Does the end deliverable have to be a written report or could they produce more interesting/audience – aware multimedia deliverables?
- Can students create their own projects?
- Quantitative Literacy is something in which our programs are already strong. Why is it included in the ESSE?
- ESSE 307 courses: Does each of the 6 ESLO's have equal value in the course?
- Would student report have a "checklist" to be certain the report covers all 6 ESLO's? Or what's in the report that can be used for grading?
- Will there be mechanism to obtain monies (grants, stipends, etc.) to support ESSE? (supplies, faculty load, etc.)
- Is there a list of General Education departments to choose faculty from for ESSE?
- What happens with the major is a general education? Example: Math based project. Do they get another general education faculty? Or any faculty is ok?
- Can students required to take small group communication (currently SPE 321 but becoming SPE 221) complete an ESSE that has focused some on group communication use the ESSE synthesis to fulfill both requirements?
- One term to complete a 3 credit course that includes time for students to research, choose/combine ideas, choose a path, complete project, present and write up seems very peripheral given it needs to meet all ESSE's. To create the synthesis you describe – appropriate time needs to be addressed.
- Cost in terms of time for students?
- Cost in terms of Wilsonville that will be a result of ESSE?
- Cost in dollars for not only faculty resources (new additional) but support staff as our faculty numbers grow.

- What if, after several years, faculty enthusiasm for ESSE's wanes? Students will still need an ESSE. Will faculty be assigned?

Students and the ESSE:

- What happens if all of the students interested in a particular ESSE are from the same department?
- What happens if only one or two students is interested in a particular ESSE?
- Many transfer students start at OIT as juniors or seniors, even if they have years yet to graduate. Is class standing the only prerequisite? I had one first year freshman start as a senior because of AP/IB classes in high school?
- Do students form their own teams? How do they meet students outside their departments?
- How will ESSE work for students not on our Klamath and Wilsonville campuses? For example – Chemeketa only has Dental Hygiene students. How will they be able to have the same opportunity?

PILOT PROPOSAL

GRANT FUNDS FOR PILOT ESSE DEVELOPMENT
Grant funds up to $2,000 (per course) are available for ESSE development. In order to receive funding, faculty must submit the following deliverables to the ESSE team:

1. ESSE Pilot Proposal Form: ESSE team will review proposal and grant approval to proceed.
2. ESSE Course Approval Form with detailed syllabus: ESSE team will review and grant permission to run pilot course.
3. Course materials: ESSE course must be developed using Blackboard, the course shell with be shared with the ESSE team. The ESSE team will use course materials and student work from pilot ESSE courses to use as examples for further ESSE development.
4. Reflection: ESSE course instructor(s) submit reflection identifying strengths, weaknesses and suggestions for improvement.

REQUIREMENTS

FACULTY
- At least two faculty, each from different departments.
- One faculty must be from General Education department: Communication, Humanities and Social Sciences, Mathematics, and Natural Sciences.

STUDENTS
- Junior-standing students
- Elective ESSE course: Student choice rather than program defined.
- Must be designed to allow enrollment of students from any major.
- Enrollment must include students from at least two disciplinary areas: Arts and Sciences, Engineering, Health, Management.

ESSE PROJECTS
- Synthesize and demonstrate all six Essential Studies Learning Outcomes.
- Address an interdisciplinary topic.
- Three credit hours in total.
- Involve team collaboration.

Course Number	**Course Title**
Will all three credits be in one term or distributed across multiple terms?	**Please specify term(s) and credit(s):**
☐ One term ☐ Multiple terms	

Location (check all that apply):	Enrollment:
☐ Klamath Falls ☐ Wilsonville ☐ Online	Minimum:
	Maximum:
Course Instructors	**Departments**
Write a statement describing the issue, problem or topic:	
List possible Organization(s), Industry Partner(s), Key Stakeholder(s):	
Describe possible culminating product(s) produced:	
How do you plan to recruit students?	

Signatures below indicate proposal fits departmental and academic strategic plans and departments will commit appropriate resources to support the proposed course. Department Chair will ensure course outcome alignment over all sections, locations and modes of delivery.

_____ _____

Department Chair Department Chair

Appendix C

Transfer Study Impact

June 6, 2017

Oregon TECH

Essential Studies Transfer Impact Study

Preliminary Results, June 2017

Essential Studies:
Defining the "Oregon Tech Experience"
Shaping Distinctive Graduates

General education that's more than the sum of its parts,
that supports success within the discipline and in life,
that produces skilled, multifaceted, creative problem-solvers.

General education that is "uniquely Oregon Tech" –
hands-on, applied, workforce-relevant
(and recognizing our mix of students, including transfers)

Transfer Impacts

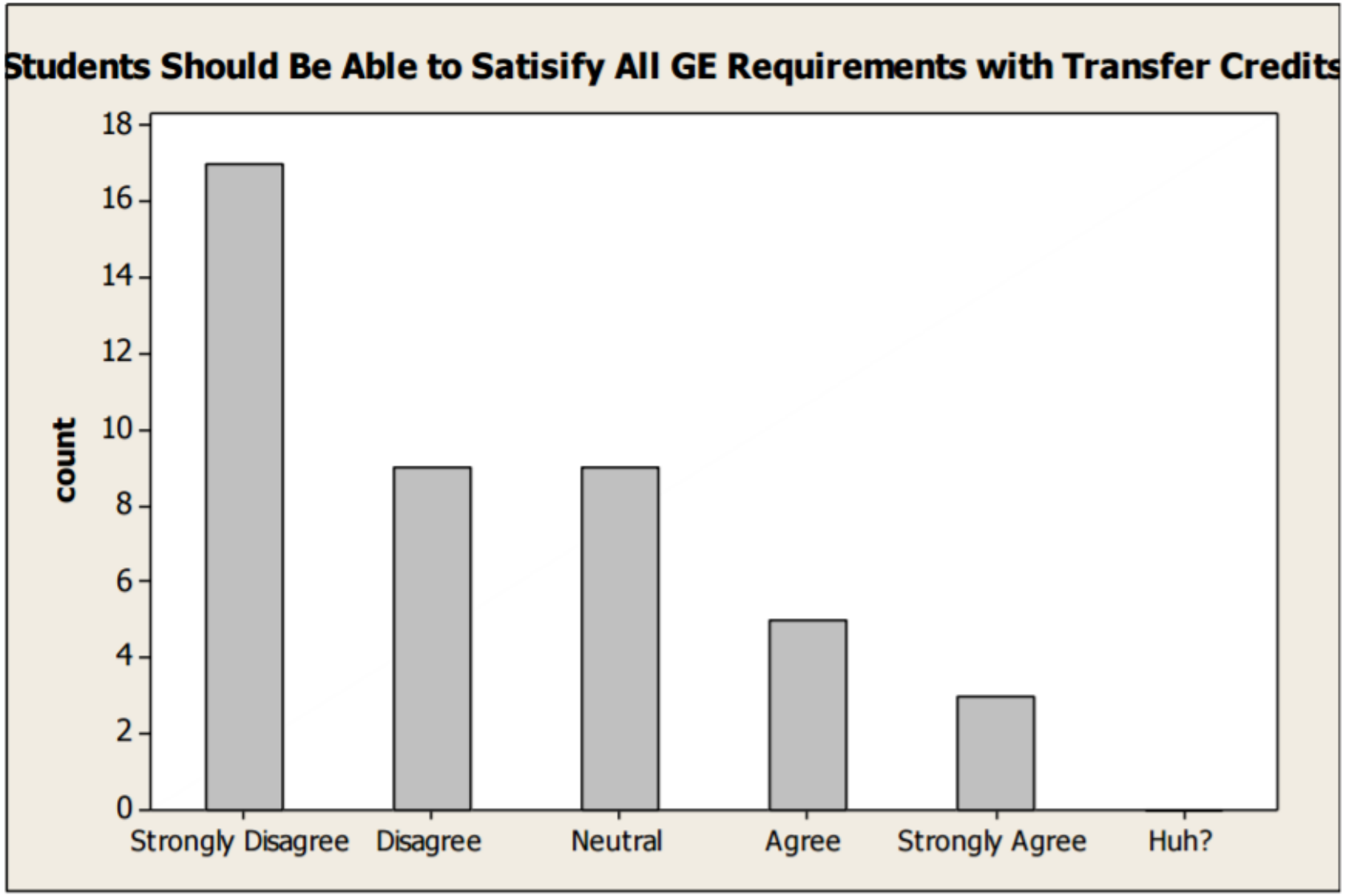
Any changes to any general education will have transfer impacts:

- Negative: extra credits/cost/time to degree
- Positive: enhanced educational experience (knowledge and skills), greater student success and workforce readiness, distinctive and marketable curriculum elements.

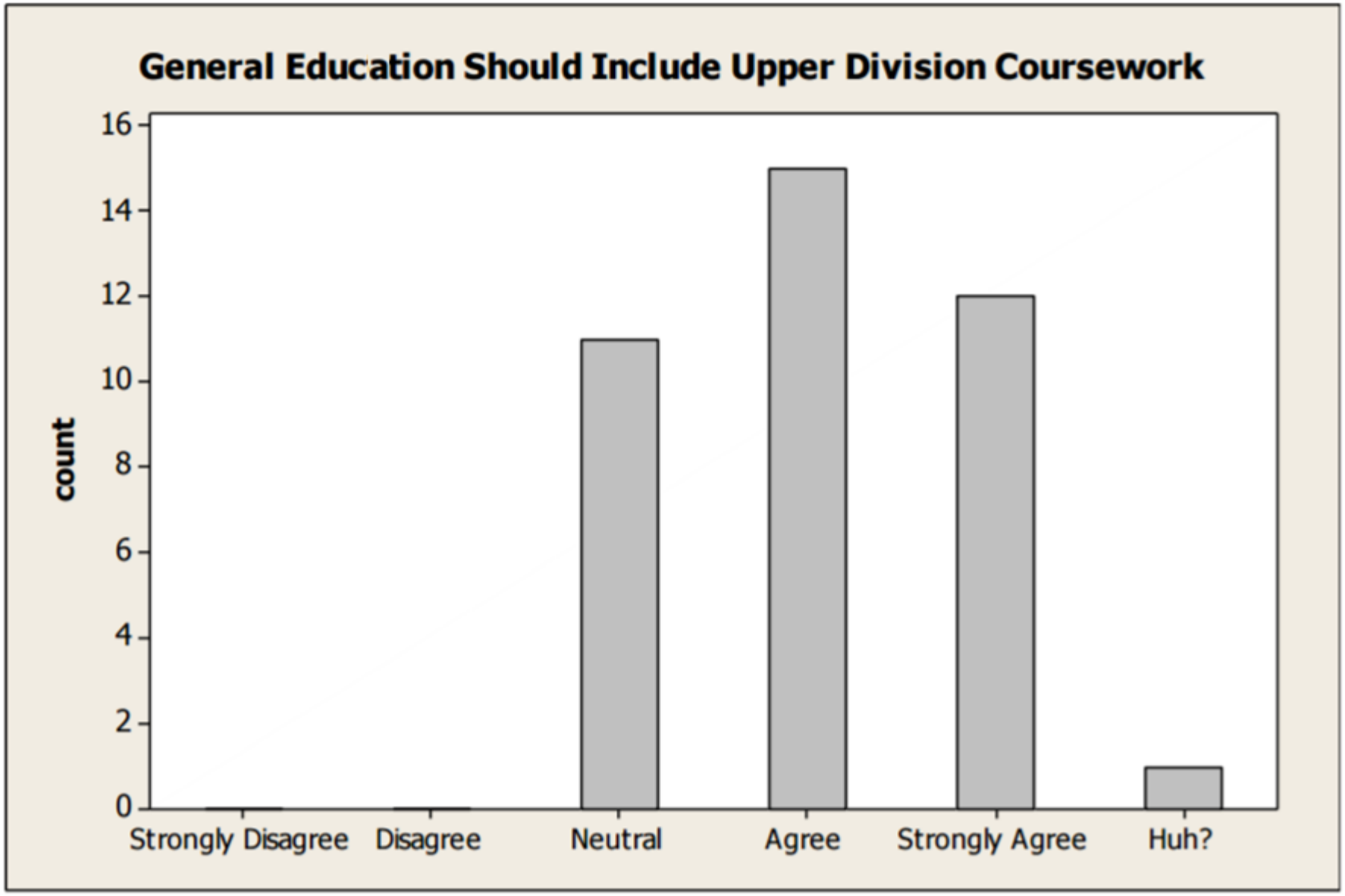
(This tension and tradeoff **already exists** between programs, too.)

Impacts should be identified, justified, and minimized – iterative testing and refinement of Essential Studies.

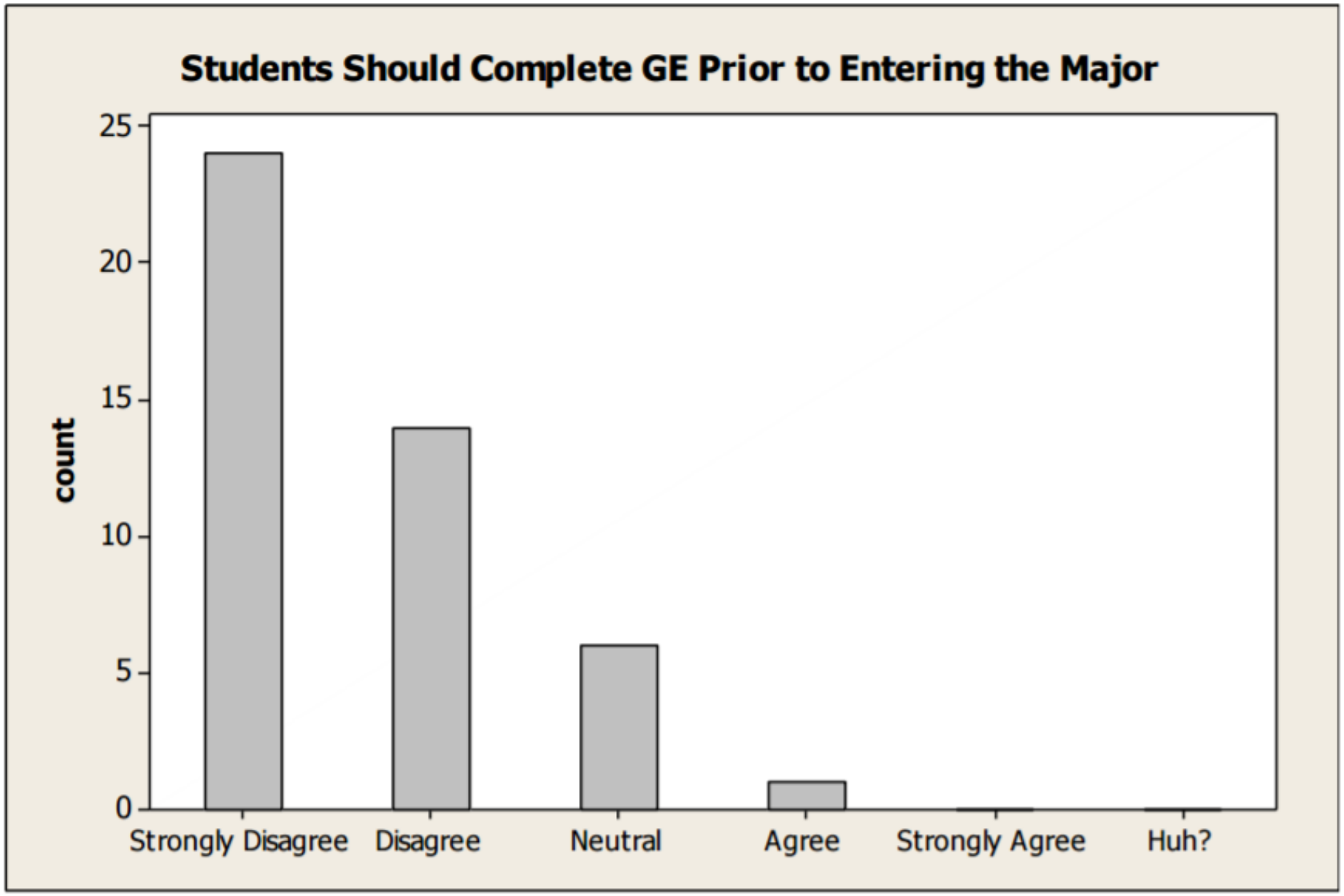
Transfer was **in mind** from the beginning.



Fall 2013 GERTF Faculty Forum survey results



Fall 2013 GERTF Faculty Forum survey results



Fall 2013 GERTF Faculty Forum survey results

Prior General Education Model

Pros: unusually large buckets makes transfer easy

Cons: poor alignment with student outcomes
(which are also workforce/employer needs)
minimal vertical development,
little integration with discipline.

36 M/S or 45 M/S/SS
(typically integrated with major requirements)

Humanities

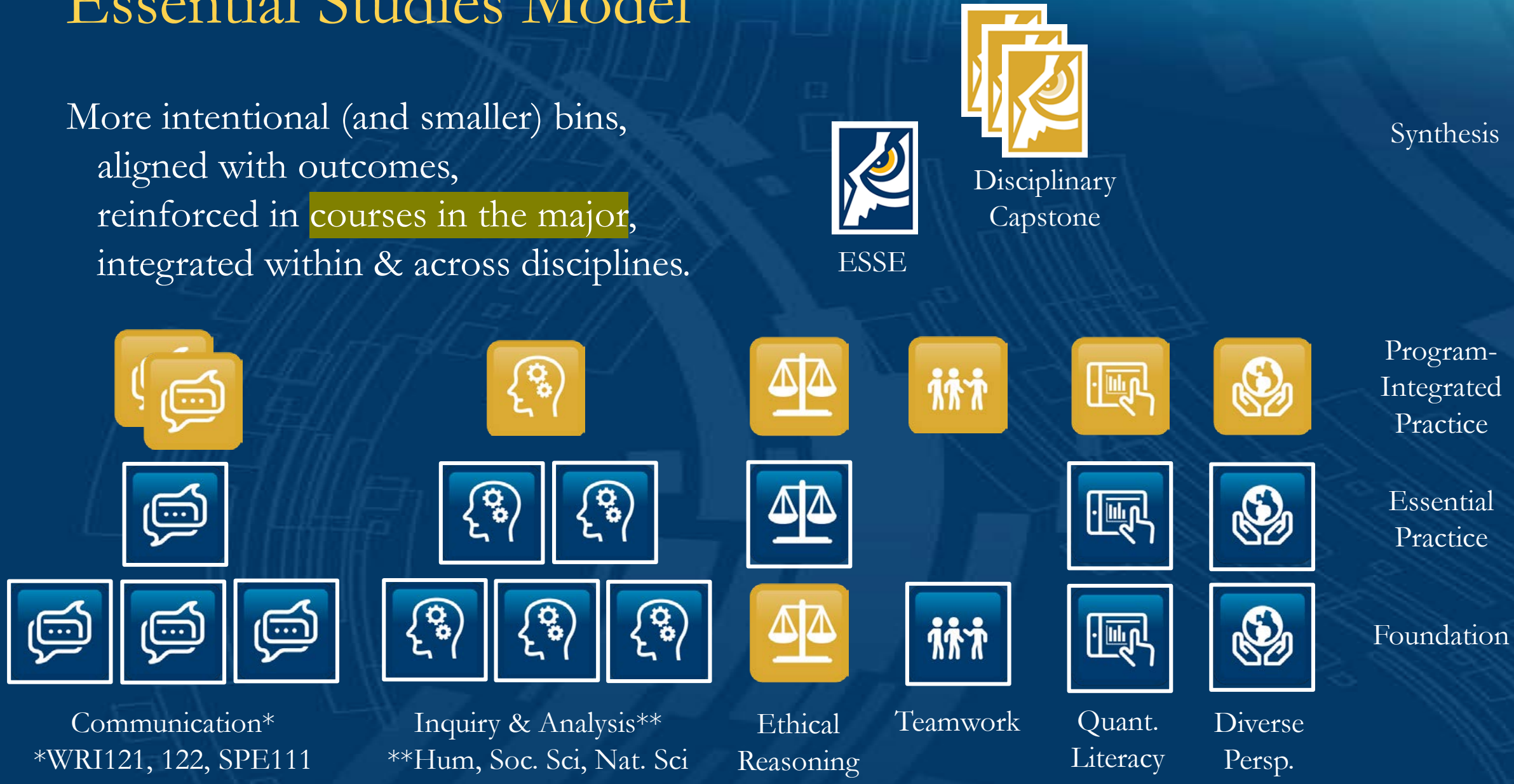
Communication*
*WRI111, 122, SPE111, 321

Math/Science**
**1 lab science

Social Sciences

Essential Studies Model

More intentional (and smaller) bins,
aligned with outcomes,
reinforced in courses in the major,
integrated within & across disciplines.



Parameters for Transfer Study

Fall ’16: Vetted by stakeholders (GEAC, Transfer Team, admin)

Stratified sampling: 3 groups of 30 each, Fall ‘16 entering students:

- Group A (direct from HS, <36 credits, N=157)
- Group B (transfer, <90 credits, N=178)
- Group C (transfer, >90 credits, N=381)

(Excluded: Postbacs, N=53 – separate policy)

90 Student ID’s pulled by IR; 2048 transfer courses.
Existing degree audits tell us how these courses apply in the major.

Process for Transfer Study

Transfer study: How do transfer courses apply under Essential Studies (and how is that different from currently)?

To answer this:

- Every program created a draft **curriculum map** (first step towards CPC submission); ~2-4 hours/program.
- Gen ed department chairs **evaluated transfer courses** under new criteria (helps us develop clear protocols): 4 chairs, ~5-15+ hours each.
- Assembled, collated, and **analyzed data** (SA, NS, SB): 60+ hours.

Where are we not applying credits now?

6351.5 credits come in to Oregon Tech; 3091.75 are applied (48.7%)

Of the 3200+ credits that not applied:

- **No applicable category** in degree map: 1702.2 credits
  (Vocational: 501 credits; PE: 90 credits)
- Matches category in model, but **block is full**: 680.5 credits
- **Remedial**: 384+ credits (not counted above)
- **Fractional credit loss**: 364.5 credits
- Below the level required by a program: 230.5 credits
- Beyond the level required by a program: 165 credits
- Student has credit for course twice: 82 credits

Group A ("Direct from HS")

Locations/Modes

- Klamath Falls (28)
- Wilsonville (2)

Common Majors

- Software Engineering Technology (6)
- Pre-Medical Imaging (5)
- Biology-Health Sciences (4)
- Mechanical Engineering (4)
- Pre-Dental Hygiene (2)
- Pre-Nursing (4) – excluded

Common Transfer Institutions

- Klamath CC (4)
- Advanced Placement (4)
- Southern Oregon U (3)
- Rogue CC (2)
- Portland State U (2)
- Portland CC (2)
- Eastern Oregon U (2)
- Chemeketa CC (2)

Group A ("Direct from HS")

Average student brings in 16.5 credits.
Under old general education model, 8.7 credits (52.5%) applied:

Humanities	1.3 credits/9	(0.4 courses/3)
Communication (Lower-Division)	1.2 credits/9	(0.4 courses/3)
Communication (Upper-Division)	0.0 credits/9	(0.0 courses/3)
Social Sciences	1.5 credits/12	(0.5 courses/4)
Math/Science	4.1+ credits	(1.0 courses+)

Group A ("Direct from HS")

Average student brings in 16.5 credits.
Under Essential Studies, 7.0 credits (42.1%) applied:

	Foundation		Practicing
Communication	1.2 credits/9	(0.4 courses/3)	-
Inquiry & Analysis	1.0 credits/10	(0.3 courses/3)	-
Quantitative Literacy	0.3 credits/4	(0.1 courses/1)	-
Diverse Perspectives	0.1 credits/3	(0.0 courses/1)	-
Teamwork	-		N/A
Ethical Reasoning	N/A		-

Group A ("Direct from HS")

Where are losses in transition?

(43 credits total; 1.7 credits/student from Group A)

- Fractional Credit Loss (2 credits)

  This was mostly "hidden" fractional loss under old model, too.
- Carving up Hum block (18 credits)
- Carving up SS block (17 credits)
- 2nd year language Credits (6 credits) –

  can apply in Hum Block currently –

  matter for GEAC & ESLO cmtes to consider

Takeaways from Group A

HS students seem to be taking college credits opportunistically.

GEAC and ESLO committees should consider:

- How 2nd year language applies;
- How AP courses (and IB) can apply.

Group B ("Low-Credit Transfers")

Locations/Modes

- Klamath (20)
- Wilsonville (4)
- Online (3)

Common Majors

- Dental Hygiene (4)
- Mechanical Engineering (3)
- Pre-Medical Imaging (4)
- Pre-Nursing (2) - excluded

Common Transfer Institutions

- Portland CC (4)
- Klamath CC (4)
- Oregon State U (3)
- Mt. Hood CC (3)
- Chemeketa CC (3)
- Rogue CC (2)
- Linn Benton CC (2)
- Eastern Oregon U (2)
- Clackamas CC (2)
- Central Oregon CC (2)

Group B ("Low-Credit Transfers")

Average student brings in 61.5 credits.

Under old general education model, 33.5 (54.5%) applied:

Humanities	2.2 credits/9	(0.7 courses/3)
Communication (Lower-Division)	6.7 credits/9	(2.2 courses/3)
Communication (Upper-Division)	1.0 credits/9	(0.3 courses/3)
Social Sciences	5.5 credits/12	(1.8 courses/4)
Math/Science	8.1+ credits	(2.0 courses+)

Group B ("Low-Credit Transfers")

Average student brings in 61.5 credits.
Under Essential Studies, 30.0 (48.9%) applied:

	Foundation	Practicing
Communication	6.7 credits/9 (2.2 courses/3)	0.7 credits/3 (0.2 courses/1)
Inquiry & Analysis	4.5 credits/10 (1.5 courses/3)	-
Quantitative Literacy	0.4 credits/4 (0.1 courses/1)	0.6 credits/3 (0.2 courses/1)
Diverse Perspectives	0.6 credits/3 (0.2 courses/1)	-
Teamwork	0.2 credits/3 (0.1 courses/1)	N/A
Ethical Reasoning	N/A	-

Group B ("Low-Credit Transfers")

Where are losses in transition?

(84 credits total; 3.1 credits/student from Group B)

- Fractional Credit Loss (21 credits)
- Carving up Hum block (14 credits)
- Carving up SS block (41 credits)
- Carving up other blocks (8 credits)

Takeaways from Group B

Students are being generally strategic about CC courses;
this group is the most representative of the breadth of our majors.

We should consider:

- How to communicate transfer policies to CC students
  (more detailed transfer website and materials, esp.
  targeted for Wilsonville, Online, Seattle, Chemeketa)
- Relationships with community college advisors/influencers:
  "Thinking about Oregon Tech? Consider these courses…"
  (should align with **Interstate Passport**)
- First-year "foundational curriculum" may be mandated by HB2998.

Group C ("High-Credit Transfers")

Locations/Modes

- Klamath (13)
- Wilsonville (10)
- Online (6)
- Chemeketa (1)

Common Majors

- Mechanical Engineering (5)
- Radiologic Science (3)
- Medical Laboratory Science (3)
- Applied Psychology (3)
- Technology & Management B.A.S. (2)
- Dental Hygiene (2)
- Health Informatics (2)
- Respiratory Care (2)

Common Transfer Institutions

- Oregon State U (6)
- Portland CC (5)
- Lane CC (4)
- Klamath CC (4)
- Portland State U (3)
- Mt Hood CC (3)
- Clackamas CC (3)
- Chemeketa CC (3)
- Western Oregon U (2)
- Treasure Valley CC (2)
- Rogue CC (2)
- Columbia Gorge CC (2)
- Central Oregon CC (2)

Group C ("High-Credit Transfers")

Average student brings in 146.9 credits.

Under old general education model, 67.6 (46.0%) applied:

Humanities	6.1 credits/9	(2.0 courses/3)
Communication (Lower-Division)	6.9 credits/9	(0.8 courses/3)
Communication (Upper-Division)	2.7 credits/9	(0.9 courses/3)
Social Sciences	8.4 credits/12	(2.8 courses/4)
Math/Science	12.4+ credits	

Group C ("High-Credit Transfers")

Average student brings in 146.9 credits.

Under Essential Studies, 60.2 (41.0%) applied:

	Foundation		Practicing	
Communication	6.9 credits/9	(0.8 courses/3)	1.5 credits/3	(0.5 courses/1)
Inquiry & Analysis	7.3 credits/10	(2.2 courses/3)	0.8 credits/6	(0.3 courses/2)
Quantitative Literacy	1.3 credits/4	(0.3 courses/1)	1.3 credits/3	(0.4 courses/1)
Diverse Perspectives	1.8 credits/3	(0.6 courses/1)	-	
Teamwork	0.6 credits/3	(0.2 courses/1)	N/A	
Ethical Reasoning	N/A		-	

Group C ("Direct from HS," N=157)

Where are losses in transition?

(251 credits loss, 7.4 credits/student net loss from Group C)

- Fractional Credit Loss (58 credits)
- Carving up Hum block (69 credits)
- Carving up SS block (93 credits)
- Carving up other blocks (24 credits)
- 2nd Year Language (7 credits)

However: also **gain** of 37 credits – mainly from DP and QL slots.

Takeaways from Group C

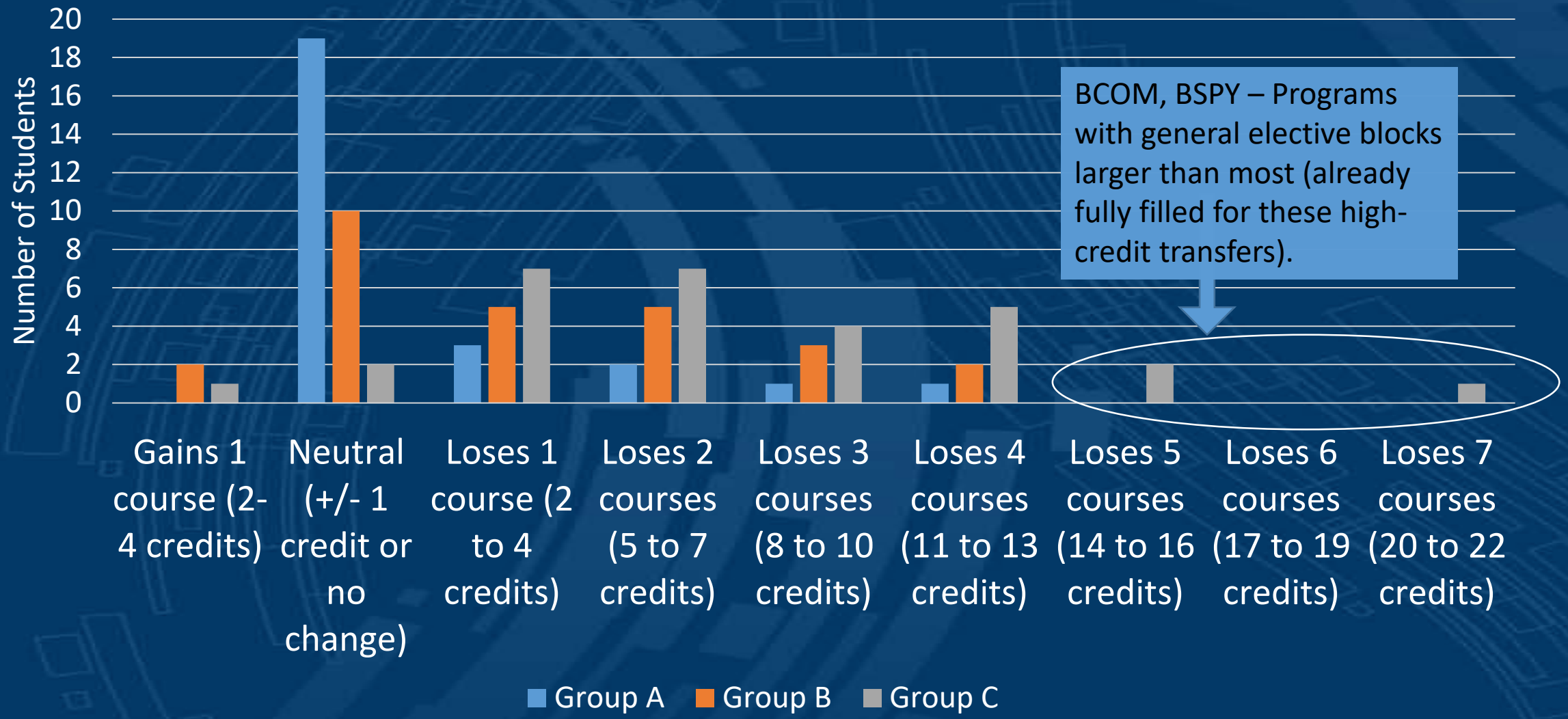
Degree of deliberate course selection here varies widely.
(e.g. lots of old credits, lots of discipline switches)

We should consider:

- What can we recognize from an Associate's Degree?
  (both an AAOT and a "regular" AS).
- Neighboring states' "transfer blocks" (CA, WA, HI)
- Year-long sequences (Essential Practice?)

Not included in this group, but: policy for post-bacs
(currently, gen ed not prescribed by program is waived)

Impact by Individual Student



Additional Opportunities

Curriculum drafts are not yet optimized.

Opportunities to move from prescribing a particular course,
now that we have lists aligned with outcomes. Particularly:

- Comm – Essential Practice (moving away from just WRI227?)
- Diverse Perspectives (moving away from just Psych?)
- QL-Practice (multiple ways to get econ/finance)

Degree audits/transfer database:

- Many questions about how catalog is applied in DegreeWorks
- Prefix-based transfer categories miss some, and miscount others.

Additional Opportunities

Transfer advising:

- Consistently reviewing transcripts with advocacy lens.
  (advising resources and support for each location/mode?)
- Giving students tools to self-advocate and take responsibility
  (which also educates about outcomes and empowers students!)
- Mandating student figure out transfer applicability sooner
  (first two terms in program?), rather than just before grad date.

Conclusion

Essential Studies Model does what it set out to do – make general education more deliberate, focused, and aligned with outcomes.
Where it has impacts, we can understand why,
and those impacts support student success.

Still a number of opportunities:

- GEAC/ESLO policy questions:
  (languages, sequences, Associates, Post-Bacs)
  broad lens for applicability of courses, esp. in foundation.
- Curriculum maps (justify why a particular course)
- Degree audits/transfer database (updated in transition)
- Communication with prospective students and CCs.

Some Next Steps

- Are there other questions we can/should answer with this data?
  (This is a rich and interesting data set!)
- Policy for GEAC and ESLO committees to consider.
- Move to second draft of curriculum maps
  (conversations beginning over summer).
- Follow-up discussions on technical implementation
  (DegreeWorks and transfer database) with registrar.
- Plan alignment with SEM and OAA activities for
  CC-relationship building (great alignment with HB2998!)