TO	All members University Curriculum Committee; Department Chairs
FROM	Ned Moore Chair, University Curriculum Committee
	ned.moore@ccsu.edu
SUBJECT	Primary Agenda for the 5th Round Full Curriculum Meeting, Rev ABCD
DATE	2/21/2022

MAIN MEETING WILL BE HELD

WEDNESDAY, April 27, 2022, at 12:15pm via Microsoft Teams

Primary Agenda

Links to curriculum subcommittee meetings are at the top of each agenda.

DIV and GRAD are independent. Their agendas are included for reference.

Please review the general education agenda

for a significant proposal regarding transfer credits

1.0 Minor Changes

1. ENG 360 – Cycling change from Even Years to Irregular

2. ENG 361 – Cycling change from Even Years to Irregular

3. ETM 467 – Description Change

    a. Old

    Application of the finite element method to structural engineering problems. Study of truss, beam, plane stress, plane strain, shell, and solid continuum finite elements; mesh generation; proper element density and element interfacing; and composite modeling problems.

    b. New

    Application of the finite element method using commercially available finite element software for structural engineering applications including linear static, modal, buckling, and thermal

stress analyses in addition to conductive and convective heat transfer analyses. Overview of essential topics from linear algebra including matrix multiplication, matrix inversion, and determinants. Development of the finite element stiffness method for one-dimensional spring problems. Study of truss, beam, plane stress, plane strain, axisymmetric, shell, and solid continuum finite elements; mixed element models; symmetry; stress singularities; and mesh convergence. Three hours of lecture per week.

4. ME 467 – Description Change

    a. Old

       A first course in the finite element method that includes the solution of spring and truss structures using the stiffness method and the principle of minimum potential energy. Subsequent study of beam, plane stress, plane strain, axisymmetric, plate, and solid elements. Additional topics include theory of elasticity basics, mesh convergence, element interpolation functions, and element integration schemes. Additional structural applications will include modal, buckling, thermal stress, and dynamic analyses. Heat transfer, fluid mechanics, and nonlinear structural analyses applications will also be introduced. Analyses will include the use of commercially available finite element software. Two hours lecture and two hours laboratory, course meets four hours per week

    b. New

       A first course in the finite element method that includes the solution of spring, truss, and beam structures using the stiffness method and the principle of minimum potential energy <u>applied to spring problems</u>. Subsequent study of beam, plane stress, plane strain, axisymmetric, plate, and solid elements. Additional topics include <u>mixed element models</u>, mesh convergence, <u>symmetry, stress singularities, and an introduction to</u> element interpolation functions and element integration schemes. Additional structural applications include modal, buckling, dynamics, and thermal stress analyses in addition to conductive and convective heat transfer analyses. Analyses will include the use of commercially available finite element software. Two hours of lecture and two hours of laboratory per week.

5. TE 221
    a. Old Title: Innovation & Invention
    b. New Title: Innovation & Invention<u> for Makerspaces and Labs</u>

2.0 Subcommittee Agendas

SEPS   Join the SEPS Subcommittee Meeting (webex)   Tuesday 4/12 @12:15

Type	Name	Committee
Change Course	EDL 605 Leadership in Teaching and Learning I - 3 credits	SEPS GRAD
Change Course	EDL 606 Leadership in Teaching and Learning II - 3 credits	SEPS GRAD
Change Course	EDL 610 School Leadership I - 3 credits	SEPS GRAD
Change Course	EDL 611 School Leadership II - 3 credits	SEPS GRAD
Change Course	EDL 688 Administration of Programs for Diverse Learners I - 1 credits	SEPS GRAD
Change Course	EDL 689 Administration Programs for Diverse Learners II - 1 credits	SEPS GRAD
Change Course	EDL 720 Inquiry Seminar XI: Disseminating Research Findings - 2 credits	SEPS GRAD
New Course	EDL 734 Leadership and Innovation in Higher Education Administration - 3 credits	SEPS GRAD
New Course	DAN 210 Occupational Wellness in Dance Education - 3 credits	SEPS
Change Course	PE 404 Methods of Teaching School Health Education - 3 credits	SEPS GRAD
New Course	PE 514 Methods of Teaching School Health Education - 3 credits	SEPS GRAD
Change Course	EXS 407 Exercise Physiology and Applied Biomechanics - 3 credits	SEPS GRAD
New Course	EXS 517 Exercise Physiology and Applied Biomechanics - 3 credits	SEPS GRAD
Change Course	PE 406 Adapted Physical Education - 3 credits	SEPS GRAD
New Course	PE 516 Adapted Physical Education - 3 credits	SEPS GRAD

CLASS   Join CLASS Subcommittee Meeting   Wed. 4/13 @ 12:15

Type	Name	Committee
New Course	MUS 102 Fundamentals of Musicianship - 3 credits	CLASS
Change Course	MUS 235 Music History I - 3 credits	CLASS GE
Change Course	MUS 334 Music History II - 3 credits	CLASS GE
Change Course	MUS 335 Music History III - 3 credits	CLASS GE
Change Course	COMM 410 Public Opinion - 4 credits	CLASS
Change Program	Strategic Communication, B.A.	CLASS
Delete Program	Caribbean Studies Minor	CLASS InterD

SEST   Join SEST Subcommittee Meeting   Thur. 4/14 @ 12:15

Type	Name	Committee
New Course	DATA 576 Topics in Data Science - 4 credits	SEST GRAD
Change Program	Electrical Engineering, B.S.	SEST
Change Course	GRT 272 Packaging Technology - 3 credits	SEST
Change Program	Robotics and Mechatronics Engineering, B.S.	SEST
Change Program	Statistics Minor	SEST
Change Program	Biomolecular Sciences, B.S.	SEST GRAD

GRAD   Join the GRAD Subcommittee Meeting (Zoom)   Thur. 4/14 @ 3:00

Type	Name	Committee
Change Course	BUS 544 Business Process Modeling - 3 credits	BUS GRAD
Change Course	BUS 548 Business Decision Models - 3 credits	BUS GRAD
New Course	DATA 576 Topics in Data Science - 4 credits	SEST GRAD
Change Course	EDL 605 Leadership in Teaching and Learning I - 3 credits	SEPS GRAD
Change Course	EDL 606 Leadership in Teaching and Learning II - 3 credits	SEPS GRAD
Change Course	EDL 610 School Leadership I - 3 credits	SEPS GRAD
Change Course	EDL 611 School Leadership II - 3 credits	SEPS GRAD
Change Course	EDL 688 Administration of Programs for Diverse Learners I - 1 credits	SEPS GRAD
Change Course	EDL 689 Administration Programs for Diverse Learners II - 1 credits	SEPS GRAD
Change Course	EDL 720 Inquiry Seminar XI: Disseminating Research Findings - 2 credits	SEPS GRAD
New Course	EDL 734 Leadership and Innovation in Higher Education Administration - 3 credits	SEPS GRAD
Change Program	Management Information Systems, B.S.	BUS GRAD
Change Program	Biomolecular Sciences, B.S.	SEST GRAD
Change Course	PE 404 Methods of Teaching School Health Education - 3 credits	SEPS GRAD
New Course	PE 514 Methods of Teaching School Health Education - 3 credits	SEPS GRAD
Change Course	EXS 407 Exercise Physiology and Applied Biomechanics - 3 credits	SEPS GRAD
New Course	EXS 517 Exercise Physiology and Applied Biomechanics - 3 credits	SEPS GRAD
Change Course	PE 406 Adapted Physical Education - 3 credits	SEPS GRAD
New Course	PE 516 Adapted Physical Education - 3 credits	SEPS GRAD

Type	Name	Committee
Delete Program	Caribbean Studies Minor	CLASS InterD

Type	Name	Committee
New Course	BUS 250 Introduction to Business Analytics and Skills - 3 credits	BUS
New Program	Business Administration, B.S.	BUS
Change Course	BUS 544 Business Process Modeling - 3 credits	BUS GRAD
Change Course	BUS 548 Business Decision Models - 3 credits	BUS GRAD
New Program	Certificate in Database Management	BUS
Change Program	Management Information Systems, B.S.	BUS GRAD
~~New Program~~	~~Certificate in Database Management~~	~~BUS~~
New Program	Official Certificate Program in Business Analytics	BUS GRAD

Type	Name	Committee
Change Course	MUS 235 Music History I - 3 credits	CLASS GE
Change Course	MUS 334 Music History II - 3 credits	CLASS GE
Change Course	MUS 335 Music History III - 3 credits	CLASS GE
Change Course	TE 150 Fundamentals of Engineering and Technology for Teachers - 3 credits	SEST GE SEPS

Additional item: **Changes to TAP framework**

- The Faculty Senate and the Council of Chairs are also reviewing this proposal.
- The proposals are appended to the end of this agenda.
- Sharon Cox is CCSU's rep on the system-level committee that created this proposal.

This proposal will be considered by the full committee, but the general education subcommittee will review it first.

DIV   The Diversity Committee

No proposals this round.

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Presentation of the
New Proposed TAP Framework30 Student Learning Outcomes (SLOs)
February 2022

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FIRC is pleased to present the New Proposed TAP Framework30 Student Learning Outcomes for your approval.[1] The SLOs can be found on pages 5-6 of this document.

What is TAP?

The Transfer and Articulation Policy (TAP) was implemented in response to the passage of Public Act No. 12-31 on May 14, 2012, which, among other things, requires a common General Education core.

In Summer 2012, a system-wide Core Competencies Steering Committee with one representative from each of the 17 ConnSCU institutions convened with the charge of identifying the competencies to be addressed in the 30-credit common Gen Ed core (Framework30) and formulating initial recommendations regarding learning outcomes for each competency. The competencies were chosen from the eight specified areas in the Board of Regents TAP policy.

During the same time frame, eight "Core Competency Subcommittees" of this group worked on the Student Learning Outcomes (SLOs) for the individual competency areas and defined the competency levels appropriate for a rising junior. Each inter-disciplinary subcommittee consisted of four faculty members from the CSUs, three faculty members from the CCs, and one representative from Charter Oak College. The Steering Committee and core competency subcommittees were disbanded upon completion of their work (between Summer 2012 and Spring 2013).

At the time, there was concern from some participants that the SLOs were overly ambitious and would be difficult to assess.

Beginning in Fall 2012, system-wide TAP Pathways Committees for each university major convened with the charge to develop the various pre-major pathways, including 30 credits of program-specific courses (Pathway30), which, together with the Framework30, comprises the 60-credit Associate degree. Each of the major pathway committees reserved a spot for a faculty representative from each campus, and these groups continue to meet yearly to review the pathways.

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[1] The "new proposed SLOs" came about through an extensive revision process, and are sometimes referred to as the "revised SLOs."

The Framework30 competencies and related SLOs were distributed to the faculty at the 17 CSCU institutions for endorsement in Fall 2013. The endorsement process was completed by February 15, 2013. Fifteen of the 17 institutions voted to endorse. Each individual community college was responsible for the vetting of their courses to the Framework30 competencies; this work began in AY 2014-2015, and continues through today with the vetting of any new courses.

What is FIRC?

Established in April 2014 to oversee the ongoing implementation of the Transfer and Articulation Policy, the charge of the TAP Framework Implementation and Review Committee (FIRC) includes:

- reviewing Pathway templates generated by Work Groups for consistency with TAP Framework30
- reviewing learning outcomes assessment data about general education outcomes provided by campuses
- facilitating periodic review of the Framework30 learning outcomes
- suggesting ongoing quality improvement of Framework30 assessment rubrics

The FIRC membership consists of 17 voting, teaching-faculty members, with one representative from each CSCU institution, elected on each campus in keeping with the typical procedure followed on the campus for elections to faculty committees, and two non-voting, non-teaching faculty with expertise and experience in transfer and articulation, one from a community college and one from CSU/COSC.[2] The committee meets monthly.

What is the Framework30?

The Framework30 is the 30-credit General Education core that comprises half of each CSCU Transfer degree. One of FIRC's charges is facilitating periodic review of the Framework30 learning outcomes.

Why is FIRC revising the Framework30 SLOs now?

Following implementation of the CSCU Transfer degrees (2014 - 2016), CSCU institutions assessed the Framework30 SLOs and reported their data, both quantitative and qualitative, to FIRC over a period of several years (2017-2019).

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[2] The positions for FIRC representatives from Norwalk CC and Northwestern Connecticut CC are currently vacant, and the FIRC representative from Quinebaug Valley CC is on sabbatical for Spring 2022.

In 2018-19, FIRC officially began the review part of the implementation → assessment → review/revision cycle by analyzing and reviewing the assessment data, and asking the faculty involved in TAP assessment at each college for feedback. An Executive Summary of the feedback and result of the review for each area was published in Spring 2019. The Executive Summary document has served as both the launch pad and the guiding principles for the revision process that FIRC undertook from 2020-2022.

In other words, the final draft SLOs presented in this document are the result of 3-4 years of faculty work (2018-2022), and two years (2020-2022) of an iterative process of faculty collaboration, including collectively reworking the SLOs, soliciting feedback, and revising the drafts again, in some cases after several rounds of feedback and revision.

What has been the revision process so far? (February 2020 - February 2022)

In early February 2020, FIRC representatives extended invitations to faculty at their institutions to participate in workgroups at an in-person meeting on February 28, 2020. More than 70 faculty attended the workshop. Participants were provided with a set of Guiding Principles for writing the Framework30 SLOs as well as a shortened version of the Executive Summary of Framework30 Assessment Data. The Guiding Principles were designed by FIRC specifically to address the themes that emerged in the assessment of the existing Framework30 SLOs.

In March 2021, after a year of reviewing input from the February 2020 workshop group and the previous assessment data, representatives of FIRC distributed a complete draft of the revised Framework30 SLOs with a call for feedback. Detailed feedback was received from more than half of the institutions in the system, and was compiled and publicly distributed through a set of documents with the feedback for each set of SLOs.

FIRC reviewed the feedback during the Fall 2021 semester, incorporating it into the final draft of the SLOs where feasible, and providing an explanation when, for example, it was necessary to choose between conflicting sets of feedback. When necessary, FIRC reached out to various cross-campus faculty groups (for example, CCET, C3BIOS) for additional discipline-specific advice. On February 11, 2022, FIRC voted to accept the final draft of the Framework30 SLOs and forward them to the 17 CSCUs.

What are the Guiding Principles?

In drafting the SLOs, a set of Guiding Principles (dubbed the "MMM guidelines" — meaningful, manageable, and measurable SLOs) was distributed to faculty at the February 2020 workshops, and used by members of FIRC, both in drafting the SLOs and making adjustments to the SLOs in

response to the feedback.

The Guiding Principles were the product of feedback received from both general education assessment groups and individual faculty involved in assessment of the existing TAP Framework30 SLOs. One of the overwhelmingly clear messages received in the feedback was that the existing (2012) SLOs are far too cumbersome to assess. In short, FIRC designed the Guiding Principles in response to the feedback of those involved in assessment. The revision of the SLOs using these principles is the final step in closing the assessment loop.

The key points from the Guiding Principles "MMM" guidelines that should be considered when proposing any revisions and providing feedback on the draft SLOs are as follows:

- Each Framework30 category should have **three or fewer outcomes**.
- The group of outcomes for each category should be **assessable with a single artifact**.
- The group of outcomes for each category should be **covered within a single course**.
- The outcomes should be clear and focused; words such as 'and' should be avoided if they are used in ways that make the outcomes difficult to assess.
- Outcomes should use appropriate verbs from Bloom's Taxonomy of Assessment, with an eye to the fact that they are being written for 100-level introductory courses and 200-level courses with no prerequisites. The SLOs represent the knowledge and skills all degree candidates are expected to acquire; they are not program objectives for majors in the discipline.
- As a group, the Framework30 outcomes should be written at a similar level of specificity; details such as the format of the artifact should be reserved for the rubric.

Please see [Guiding Principles for Writing SLOs](#) for the full set of guidelines.

Presentation of New Proposed TAP Framework30 SLOs

Written Communication

1. Craft a thesis-driven, supported, logically organized argument that applies conventions of English appropriate to the audience, purpose, and context.
2. Interpret and evaluate credible sources and integrate ideas from those sources in an ethical manner with appropriate documentation.

Oral Communication

1. Create and express oral messages appropriate to the audience, purpose, and context.
2. Employ Communication theories and strategies to convey an oral message.
3. Critically analyze messages.

Quantitative Reasoning

Given an authentic context or everyday life situation:

1. Convert relevant information into an appropriate mathematical form, such as an equation, graph, diagram, table, or words.
2. Use arithmetic, algebra, geometry, statistics, or logic to solve related problems.
3. Interpret the significance, reasonableness, or implications of calculated results.

Scientific Knowledge and Understanding

1. Communicate scientific knowledge using appropriate terminology, and representations, models, or analysis.
2. Describe how a scientific explanation or theory is refined or replaced.
3. Evaluate the quality of a scientific claim on the basis of its source, and the logic or methods used to generate it.

Scientific Reasoning

1. Apply scientific methods to investigate phenomena of the physical or natural world through prediction, observation or experimentation, data acquisition, and evaluation.
2. Represent and report scientific data symbolically, graphically, or numerically.
3. Interpret and evaluate scientific data in order to draw reasonable and logical conclusions.

Historical Knowledge and Understanding

1. Define and interpret primary and secondary historical sources.
2. Explain and evaluate the influence of historical agency (race, class, gender, region/location, or belief system) in the context of defined periods.

Social and Behavioral Sciences

1. Explain social, organizational, psychological, political, economic, historical, geographic, or cultural elements that influence and are influenced by individuals or groups.
2. Describe theories and concepts, or research methods used to investigate social or behavioral phenomena.
3. Identify and describe ethical issues pertaining to social contexts and phenomena.*

   * Examples include but are not limited to: how economic policies affect social classes or marginalized groups; consumer behavior and governmental control over regulation; what counts as ethical or unethical research methods conducted with human subjects; codes of ethics used by specific disciplines in social & behavioral sciences; and issues pertaining to systemic inequality, structural oppression, and intersectional justice.

Arts and Humanities

1. Identify and describe key features of visual works, performances, texts, or other artifacts in relation to a context (such as historical, geographical, social, political, cultural, linguistic, or aesthetic).
2. Apply key concepts, terminology, techniques or methodologies in the analysis or creation of visual works, performances, texts, or other artifacts.

Continuing Learning/Information Literacy

1. Use current, relevant technologies to identify and solve problems, make informed decisions, communicate, or create information.
2. Evaluate the authority, relevance, and accuracy of various sources of information to address issues that arise in academic, professional, or personal contexts.
3. Identify ethical issues related to access or use of information, such as the impact on security, privacy, censorship, intellectual property, or the reliability of information.

How do these differ from the existing TAP Framework SLOs?

To see a side-by-side comparison of the existing SLOs, which were written in 2012, and the new proposed SLOs, please go to the Comparison of Existing SLOs versus New Proposed SLOs

document. This document also contains links to documents for each set of SLOs with the first (Spring 2021) draft of the revised SLOs — along with all of the feedback received from each institution on the first draft, and FIRC's responses to the feedback.

Please note that the new proposed SLOs are the product of a multi-year process of actively engaging faculty and disciplinary groups from across the system, and that TAP FIRC is a body on which all 17 institutions in the CSCU system have an opportunity for representation, and in which voting members are all elected faculty. FIRC initiated the revision process in response to faculty feedback that the TAP Framework30 SLOs were difficult to assess — not just in the interest of closing the assessment loop, but also with the aim of being responsive to faculty feedback. In other words, the new proposed SLOs are written by and for the faculty of the CSCU system at the request of faculty from the CSCU system.

If a set of new proposed SLOs is not approved, no change will be made, and FIRC will go forward with the existing SLOs.

In the form of a letter from Dr. Michael Rooke, sent while he was in his previous role as CSCC Interim Provost and VP for Academic Affairs, FIRC has received reassurances that this faculty-driven work will be honored moving forward. Dr. Rooke affirmed that FIRC will continue to have ownership of, and responsibility for, the Framework30 SLOs.

What is the next step?

FIRC is asking your institution to approve the new proposed TAP Framework30 SLOs as a package. A response from each institution will be solicited by, and should be funneled through, your elected TAP FIRC representative.

As is customary with voting on TAP matters, if your institution votes no or abstains from voting, it should send to FIRC a written rationale for the no vote/abstention.

In a no vote, objections to *individual sets of* new proposed SLOs should be identified, with rationale for why the institution is objecting to the revisions to each particular set of SLOs. Any set of new proposed SLOs not mentioned and accompanied by a rationale will be considered to be approved.

FIRC members must report the outcome of their institution's vote to FIRC no later than May 27, 2022. The votes will be tallied and sent back to FIRC representatives no later than May 31, 2022.

If you have any questions about the process, please email the TAP FIRC Co-Chairs: Prof. Sarah Selke (Three Rivers CC, sselke@trcc.commnet.edu) and Prof. Heidi Lockwood (Southern CT

State University, lockwoodh1@southernct.edu).

COMPARISON OF EXISTING TAP FRAMEWORK30 SLOs &
NEW PROPOSED TAP FRAMEWORK30 SLOs

Note from FIRC:

The new proposed SLOs are the product of a two-year-long process of actively engaging faculty and disciplinary groups from across the system.[1] TAP FIRC is a body on which all 17 institutions in the CSCU system have an opportunity for representation, and in which voting members are all elected faculty. In other words, the new proposed SLOs are written by and for the faculty of the CSCU system. If a set of revised SLOs is not approved, FIRC will go forward with the existing SLO set it had intended to replace.

Existing Written Communication SLOs (2012):

1. Respond to Rhetorical Situations
   - Identify and evaluate the specific audience and purpose in different writing situations, and adapt their writing appropriately to those situations.
   - Develop effective prose that influences attitudes, beliefs, and actions through appropriate logical, ethical, and emotional appeals.
2. Use Sources
   - Locate and evaluate sources appropriate to the rhetorical situation.
   - Read, comprehend, and summarize an argument from a complex piece of writing.
   - Analyze, evaluate, and respond to an argument from a complex piece of writing.
   - Summarize, paraphrase, and quote accurately the ideas of others, clearly differentiating them from the students' own ideas.
   - Synthesize and integrate others' ideas purposefully and ethically with correct and appropriate documentation.
3. Craft Logical Arguments
   - Generate a controlling idea or thesis.
   - Provide clear and logical evidence, support, or illustration for their assertions.
   - Choose appropriate and effective organizing methods, employing effective transitions and signposts.
   - Write a focused and sustained argument of at least 1500 words that demonstrates all of these outcomes
4. Apply Language Conventions
   - Use diction, tone, and level of formality appropriate to audience, purpose, and situation.

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[1] The "new proposed SLOs" came about through an extensive revision process, and are sometimes referred to as the "revised SLOs."

- Apply the conventions of Standard English grammar, spelling, and mechanics.
- Formulate Effective Writing Strategies
- Develop flexible strategies for generating, revising, editing, and proofreading their writing.
- Reflect on and explain the effectiveness of their writing choices regarding the audience, purpose, and situation.

5. Formulate Effective Writing Strategies
    - Develop flexible strategies for generating, revising, editing, and proofreading their writing.
    - Reflect on and explain the effectiveness of their writing choices regarding the audience, purpose, and situation.

NEW Proposed Written Communication SLOs (February 2022):

1. Craft a thesis-driven, supported, logically organized argument that applies conventions of English appropriate to the audience, purpose, and context.
2. Interpret and evaluate credible sources and integrate ideas from those sources in an ethical manner with appropriate documentation.

To see the Spring 2021 first draft of the revised Written Communication SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Oral Communication SLOs (2012):

1. Respond to Rhetorical Situations
    - Identify and evaluate the specific audience and purpose in different communication situations, and adapt the communication appropriately to those situations.
    - Develop effective messages that influence attitudes, beliefs, and actions through appropriate logical, ethical, and emotional appeals.
    - Recognize when others do not understand the message and then manage those misunderstandings.
    - Listen effectively by understanding, remembering, interpreting, evaluating, and responding appropriately to the speech of others.
2. Use Sources
    - Locate, evaluate, use, and acknowledge sources appropriate to the communication purpose.
    - Summarize, paraphrase, and quote accurately the ideas of others, clearly differentiating them from the students' own ideas.

- Synthesize and integrate others' ideas purposefully and ethically into their own communication.
3. Craft Logical Arguments
    - Select an appropriate and effective medium for communicating.
    - Choose appropriate and effective organizing methods for the message, employing effective transitions and signposts.
    - Provide clear and logical evidence, support, or illustration for their assertions.
4. Apply Language Conventions
    - Use diction, tone, and level of formality appropriate to audience, purpose, and situation.
    - Use pronunciation, grammar, articulation, and nonverbal behaviors appropriate for the message and designated audience.
5. Formulate Effective Communication Strategies
    - Reflect on and explain the effectiveness of their communication choices regarding the audience, purpose, and situation.
    - Speak ethically by accepting responsibility for their communication practices and by communicating openly and directly.
    - Revise and rehearse speeches before delivery.
    - Work collaboratively with others, including managing discussion, tasks, and information

NEW Proposed Oral Communication SLOs (February 2022):

1. Create and express oral messages appropriate to the audience, purpose, and context.
2. Employ Communication theories and strategies to convey an oral message.
3. Critically analyze messages.

To see the Spring 2021 first draft of the revised Oral Communication SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see [this document](#).

Existing Quantitative Reasoning SLOs (2012):

1. Represent mathematical, and quantitative information symbolically, graphically, numerically, and verbally.
2. Apply quantitative methods to investigate routine and novel problems. This includes calculations/procedures, mathematical and/or statistical modeling, prediction, and evaluation.
3. Interpret mathematical and quantitative information and draw logical inferences from representations such as formulas, equations, graphs, tables, and schematics.

4. Evaluate the results obtained from quantitative methods for accuracy and/or reasonableness.

New Proposed Quantitative Reasoning SLOs (February 2022):

Given an authentic context or everyday life situation:

1. Convert relevant information into an appropriate mathematical form, such as an equation, graph, diagram, table, or words.
2. Use arithmetic, algebra, geometry, statistics, or logic to solve related problems.
3. Interpret the significance, reasonableness, or implications of calculated results.

To see the Spring 2021 first draft of the revised Quantitative Reasoning SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Scientific Knowledge and Understanding SLOs (2012):

1. Communicate using appropriate scientific terminology.
2. Use representations and models to communicate scientific knowledge and solve scientific problems.
3. Plan and implement data collection strategies appropriate to a particular scientific question.
4. Articulate the reasons that scientific explanations and theories are refined or replaced.
5. Evaluate the quality of scientific information on the basis of its source and the methods used to generate it.

New Proposed Scientific Knowledge and Understanding SLOs (February 2022):

1. Communicate scientific knowledge using appropriate terminology, and representations, models, or analysis.
2. Describe how a scientific explanation or theory is refined or replaced.
3. Evaluate the quality of a scientific claim on the basis of its source, and the logic or methods used to generate it.

To see the Spring 2021 first draft of the revised Scientific Knowledge and Understanding SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Scientific Reasoning SLOs (2012):

1. Explain the methods of scientific inquiry that lead to the acquisition of knowledge. Such methods include observations, testable hypotheses, logical inferences, experimental design, data acquisition, interpretation, and reproducible outcomes.
2. Apply scientific methods to investigate real-world phenomena, and routine and novel problems. This includes data acquisition and evaluation, and prediction.
3. Represent scientific data symbolically, graphically, numerically, and verbally.
4. Interpret scientific information and draw logical references from representations such as formulas, equations, graphs, tables, and schematics.
5. Evaluate the results obtained from scientific methods for accuracy and/or reasonableness.

New Proposed Scientific Reasoning SLOs (February 2022):

1. Apply scientific methods to investigate phenomena of the physical or natural world through prediction, observation or experimentation, data acquisition, and evaluation.
2. Represent and report scientific data symbolically, graphically, or numerically.
3. Interpret and evaluate scientific data in order to draw reasonable and logical conclusions.

To see the Spring 2021 first draft of the revised Scientific Reasoning SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Historical Knowledge and Understanding SLOs (2012):

1. Interpret and differentiate types of historical sources including popular, academic, primary, and secondary.
2. Recognize ever-changing interpretations of history.
3. Examine the development of societies in national and/or international contexts.
4. Explain the influence and agency of race, class, gender, and other perspectives on historical events.
5. Describe the impact of the past on subsequent events, including the present.
6. Examine the complex, dynamic, and interrelated nature of change.

New Proposed Historical Knowledge and Understanding SLOs (February 2022):

1. Define and interpret primary and secondary historical sources.
2. Explain and evaluate the influence of historical agency (race, class, gender, region/location, or belief system) in the context of defined periods.

To see the Spring 2021 first draft of the revised Historical Knowledge and Understanding SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Social Phenomena SLOs (2012), renamed Social and Behavioral Sciences in 2019:

1. Explain social, organizational, political, economic, historical, or cultural elements that influence and are influenced by individuals and groups.
2. Describe different theories and research methods used to investigate social phenomena.
3. Recognize ethical issues pertaining to social contexts and phenomena.
4. Explain issues of diversity within and across cultures.
5. Apply concepts or theories of social phenomena to real world situations. (e.g., service learning, group work, clubs, organizations, civic engagement, conflict resolution, and internships).

New Proposed Social and Behavioral Sciences SLOs (February 2022):

1. Explain social, organizational, psychological, political, economic, historical, geographic, or cultural elements that influence and are influenced by individuals or groups.
2. Describe theories and concepts, or research methods used to investigate social or behavioral phenomena.
3. Identify and describe ethical issues pertaining to social contexts and phenomena.*

   * Examples include but are not limited to: how economic policies affect social classes or marginalized groups; consumer behavior and governmental control over regulation; what counts as ethical or unethical research methods conducted with human subjects; codes of ethics used by specific disciplines in social & behavioral sciences; and issues pertaining to systemic inequality, structural oppression, and intersectional justice.

To see the Spring 2021 first draft of the revised Social and Behavioral Sciences SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Aesthetic Dimensions SLOs (2012), expanded to Arts and Humanities in 2019:

1. Apply key concepts, terminology, and methodologies in the analysis of literary, performing, visual, or other arts.
2. Identify works of visual, performing, or literary art within historical, social, political, cultural, and aesthetic contexts.

3. Articulate ways in which literature, performance, the visual arts or related forms respond to and influence society and culture.
4. Actively engage with the literary, performing or visual arts or other cultural forms through experience or creative expression.
5. Articulate the ethical dimensions surrounding the creation, circulation, and interpretation of works of visual, performing, or literary art.

New Proposed Arts and Humanities SLOs (February 2022):

1. Identify and describe key features of visual works, performances, texts, or other artifacts in relation to a context (such as historical, geographical, social, political, cultural, linguistic, or aesthetic).
2. Apply key concepts, terminology, techniques or methodologies in the analysis or creation of visual works, performances, texts, or other artifacts.

To see the Spring 2021 first draft of the revised Arts and Humanities SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.

Existing Continuing Learning/Information Literacy SLOs (2012):

1. Demonstrate competency in using current, relevant technologies to solve problems, complete projects, and make informed decisions.
2. Access, navigate, identify and evaluate information that is appropriate for their need(s) and audience(s).
3. Synthesize information to broaden knowledge and experiences and produce both independent and collaborative work.
4. Evaluate the economic, legal, ethical, and social issues surrounding the access and use of information and relevant technologies.

New Proposed Continuing Learning/Information Literacy SLOs: (February 2022):

1. Use current, relevant technologies to identify and solve problems, make informed decisions, communicate, or create information.
2. Evaluate the authority, relevance, and accuracy of various sources of information to address issues that arise in academic, professional, or personal contexts.
3. Identify ethical issues related to access or use of information, such as the impact on security, privacy, censorship, intellectual property, or the reliability of information.

To see the Spring 2021 first draft of the revised Continuing Learning/Information Literacy SLOs, along with the system-wide feedback and FIRC's responses to the feedback, please see this document.