KF-SCIS Handbook for Instructors of Assessment Courses

Background: Assessment

Every year, KF-SCIS participates in assessment by a set of private agencies approved by the Department of Education as well as required assessment by the State of Florida and Board of Governers. The purpose is to maintain our accreditation status, the implications of which are multi-fold. Accreditation implies students have some re-assurance of education quality and integrity; students often will view accreditation status before applying to a school, and regional accreditation is required for receipt of federal financial aid money. It also lends credibility to our institution when our students receive a degree and allows the degrees awarded to be recognized by other institutions. Future employers of our students, and/or graduate programs will often view accreditation status of institutions on student transcripts.

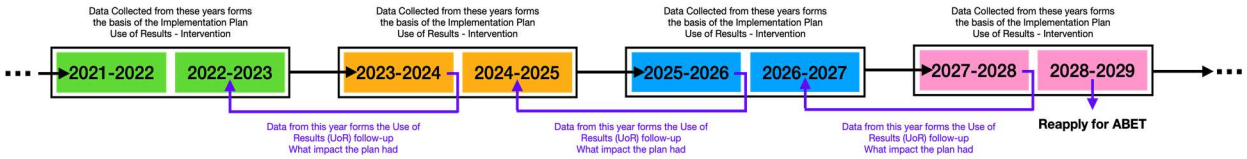
Two external organizations are involved with accreditation of KF-SCIS. One is the ***Southern Association of Colleges and Schools (SACS)***, which is the body for accreditation of degree-granting higher education institutions in the Southern States. KF-SCIS submits data for SACS every year. SACS is reaffirmed every ten years with a mid-term review at the five-year mark to ensure that institutions are making progress on assessment and continuing to improve.

The second is the ***Accreditation Board for Engineering and Technology (ABET),*** a recognized US accreditor of college and university programs in applied and natural science, computing, engineering, and engineering technology. ABET is a current accreditor of KF-SCIS Bachelor of Science (BS) degree programs. ABET accreditation must be renewed every six years maximum.

An internal accreditation process is also performed for ***Global Learning (GL).*** All FIU undergraduates must take at least two global learning courses prior to graduation. One of these must be a global-learning foundations course in the University Course Curriculum (UCC). The second is a discipline-specific global learning course, which must be part of the student's major. At the time of this document, CGS3095 (Technology in the Global Arena) is the main discipline-specific GL course. CTS1500 can also be used for BS in Cybersecurity (BS-CY) students.

FIU has elected to streamline SACS and ABET accreditation, and the GL requirement – to ensure that by collecting annual data for SACS, we will have usable data for ABET and GL.

The timeline of SACS assessment proceeds as follows:



In summary, an Improvement Plan (Use of Results) must be developed every two years, which will be implemented in the following academic year. At the end of each two-year period (i.e. the beginning of the next two year period), KF-SCIS must submit a follow up to the "Use of Results" which indicates the impact of the improvement plan. This, in turn, forms the basis for the next plan.

By example -- in the figure – an Improvement Plan (Use of Resutls) will be built included in the 2022-2023 report, based on data from 2021-2022 and 2022-2023, This plan will be implemented in the 2023-2024 academic year. The data collected for 2023-2024 will be used to follow up in the 2022-2203 Use of Results and as the foundation for the next two year cycle – 2023-2024 and 2024-2025. In the 2024-2025 report, a new Improvement Plan will be constructed based on data from 2023-2024 and 2024-2025 and will be in effect In the 2025-2026 academic year, the data collected will be used to follow up on the Use of Results (plan) from 2024-2025 which was implemented in 2025-2026.

KF-SCIS successfully achieved ABET accreditation of its BS degrees in 2023, meaning in 2029 (violet), it must re-apply.

What is Being Assessed?

KF-SCIS must define two sets of outcomes, which each answer its own respective set of questions:

Program Educational Objectives (Program Outcomes or POs)

Program educational objectives are broad statements that describe what graduates are expected to attain within a few years after graduation. Program educational objectives are based on the needs of the program's constituencies.

Student [Learning] Outcomes (SLOs)

Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviors that students acquire as they progress through the program.

The purpose of assessment is to determine the degree to which students have attained POs and SLOs.

Program Outcomes (POs)

POs have been defined for every KF-SCIS degree program. A table containing the list of KF-SCIS degree programs and associated POs is available here:
http://www.cs.fiu.edu/~tcickovs/KFSCIS/POs.html.

POs are assessed at the program level. By definition, PO assessment must only include KF-SCIS recent graduates, alumni and employers. At the time of this document, KF-SCIS POs are assessed through the administration of exit, alumni and employer surveys.

Student Learning Outcomes (SLOs)

Unlike POs, SLOs are assessed at the course level. For every KF-SCIS degree program, KF-SCIS has defined a specific set of SLOs, along with a specific set of courses used for SLO assessment. A table containing the list of KF-SCIS degree programs and associated SLOs is available here: http://www.cs.fiu.edu/~tcickovs/KFSCIS/SLOs.html

Courses used to assess SLOs must be required courses, to ensure they are taken by every student who completes the associated degree program. All sections of these courses must be assessed, using a uniform assessment method such as standard rubric(s) or embedded test questions. This implies that all sections of these courses must include material(s) (i.e. exams, assignments, etc.) to which this uniform assessment method can be applied. Note these materials can vary across course sections.

Courses used to assess SLOs are subject to the SACS/ABET/GL accreditation timeline, meaning that every two years (the first year of a new two-year period), results from the previous academic year will require analysis, and a new Improvement Plan will need to be developed.

Implications for Faculty Teaching Assessment Courses

It is the position of KF-SCIS that the set of faculty teaching an assessment course represents the optimal group of individuals to (1) determine the assessment method to be applied across sections and (2) analyze results and build new Improvement Plans for their courses (Use of Results) (3) Analize the data after the implementation of the Improvement Plan to determine the impact of the lan(Follow Up).

Each year, the group of faculty teaching an assessment course *X* will have four primary responsibilities.

1. **Meet and agree upon the assessment method that will be applied to all sections of course *X* (including their own).**
2. **Build material(s) for their course section to which this uniform assessment method can be applied.**
3. **Complete the assessment method through Canvas for their course section using the Outcomes tool within Canvas.**
4. **Either create an Improvement Plan for the Use of Results, or review the data collected after implementation to complete the Folliw Up, depending on the year.**

Building an Assessment Rubric

An assessment rubric should always involve direct assessment of student outcomes. To illustrate by example, we show below the rubric used for CGS3095 at the time of this document.

Outcome	Full Marks (2)	Partial Marks (1)	No Marks (0)

GL1. Describe the legal, ethical, and social impacts of technology as related to individual privacy, security, and anonymity in societies across the globe and in the global Internet society.	Includes a clear discussion of the legal, ethical, and social impacts of technology as related to individual privacy, security, and anonymity in societies across the globe and in the global Internet society.	Includes a discussion of the legal, ethical, and social impacts of technology as related to individual privacy, security, and anonymity in societies across the globe and in the global Internet society.	Has no clear discussion of the legal, ethical, and social impacts of technology as related to individual privacy, security, and anonymity in societies across the globe and in the global Internet society.
GL2. Describe the legal, ethical, and social impacts of technology as related to intellectual property rights, and how the global reach of the Internet affects these issues.	Includes a clear discussion of the legal, ethical, and social impacts of technology as related to intellectual property rights, and how the global reach of the Internet affects these issues.	Includes a discussion of the legal, ethical, and social impacts of technology as related to intellectual property rights, and how the global reach of the Internet affects these issues, but it is weak or unclear.	Has no clear discussion of the legal, ethical, and social impacts of technology as related to intellectual property rights, and how the global reach of the Internet affects these issues.
GL3. Identify a computing professional's roles and responsibilities as related to intellectual property, privacy, anonymity, legal, social, and ethical issues. **SLO4. Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.**	Includes a clear discussion of the computing professional's roles and responsibilities as related to intellectual property, privacy, anonymity, legal, social, and ethical issues.	Includes a discussion of the computing professional's roles and responsibilities as related to intellectual property, privacy, anonymity, legal, social, and ethical issues but it is weak or unclear.	Has no clear discussion of the computing professional's roles and responsibilities as related to intellectual property, privacy, anonymity, legal, social, and ethical issues.
SLO3. Communicate effectively in a variety of professional contexts. (Oral) **Method of assessment:**	Includes a clear, appropriate, relevant and compelling oral analysis of the global technology impact displaying the speaker's understanding of the issues.	Includes an oral analysis of the global technology impact but the analysis is weak, inappropriate, not relevant or unclear in expressing the speaker's	Has no clear appropriate, relevant and compelling oral analysis of the global technology impact.

Students will present on an analysis of global technology impact issues		understanding of the issues.	
SLO3. Communicate effectively in a variety of professional contexts. (Written) **Method of assessment: Students will write a paper that involves an analysis of global technology impact issues.**	Includes a clear, appropriate, relevant and compelling written analysis of the global technology impact displaying the writer's understanding of the issues.	Includes a written analysis of the global technology impact but the analysis is weak, inappropriate, not relevant or unclear in expressing the writer's understanding of the issues.	Has no clear appropriate, relevant and compelling written analysis of the global technology impact.

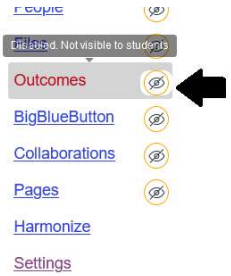
CGS3095 is currently used to collect assessment data for three GL course outcomes (numbered GL1-3), and two degree SLOs (SLO3 and SLO4). As a large degree of overlap was observed between GL3 and SLO4, faculty teaching CGS3095 elected to use the same metrics to assess both outcomes. SLO3 (communication) has been broken into oral and written components, with different metrics to assess each.

The specific rubric employed by all of the faculty in a specific course will vary widely from other courses based on the course. Courses that have been used to collect assessment data in prior semesters will likely have rubrics already in place, that require periodic updates. For assistance in starting a new rubric, KF-SCIS has assembled undergraduate and graduate assessment committees to provide additional guidance in ensure quality and adequacy in assessment.

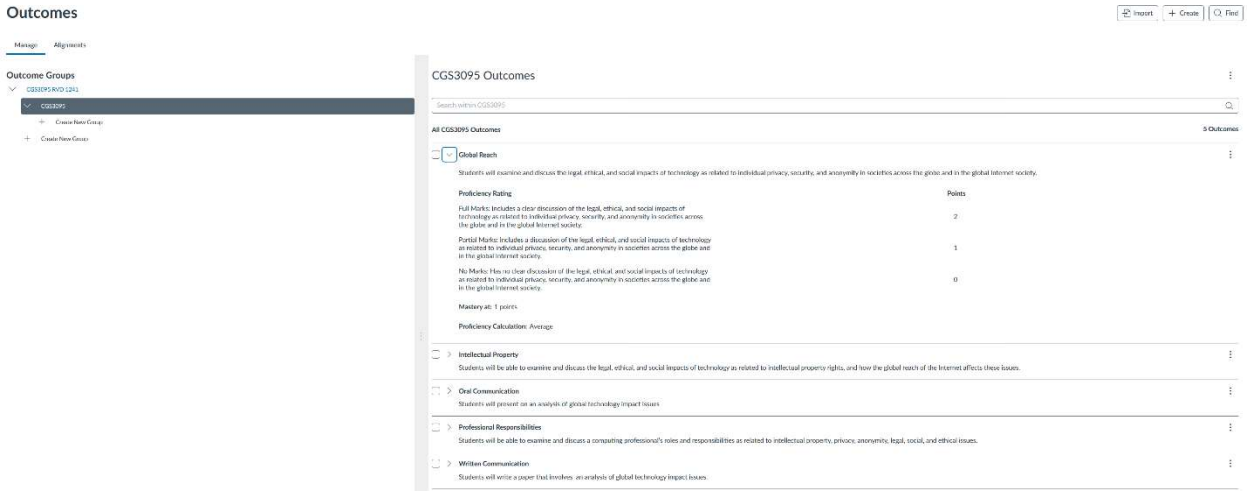
Selecting Assessment Materials and Canvas Integration

Outcomes

"Outcomes" is now included, by default, within the Canvas course navigation system of all FIU courses. You can access this for your course b y clicking "Outcomes" on the left side of your Canvas page.



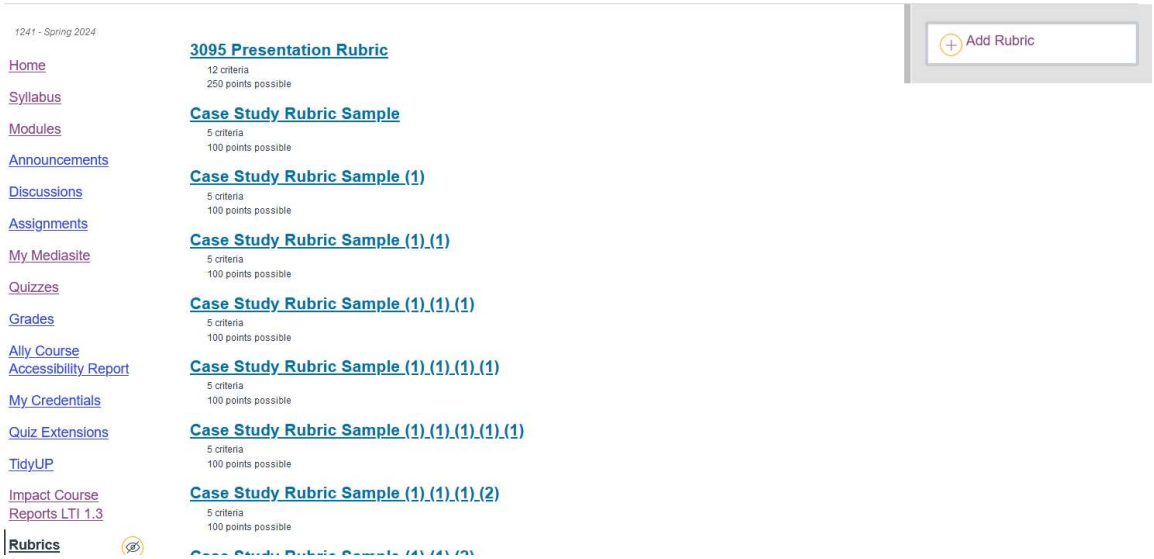
Outcomes are organized by groups. Each outcome can be expanded to show the ~~unifrom~~uniform rubric used for assessment:



Please note that if you do not see the department level rubrics for the course, you will need to contact the assessment coordinator and your assigned instructional designer to have them attached to your course. You must use the departmental level rubrics as they feed into the data dashboard for assessment data. If you create rubrics, even duplicate rubrics of the departmental level rubrics, data will not get collected for your section.

Assignment Selection and Mapping to Outcomes

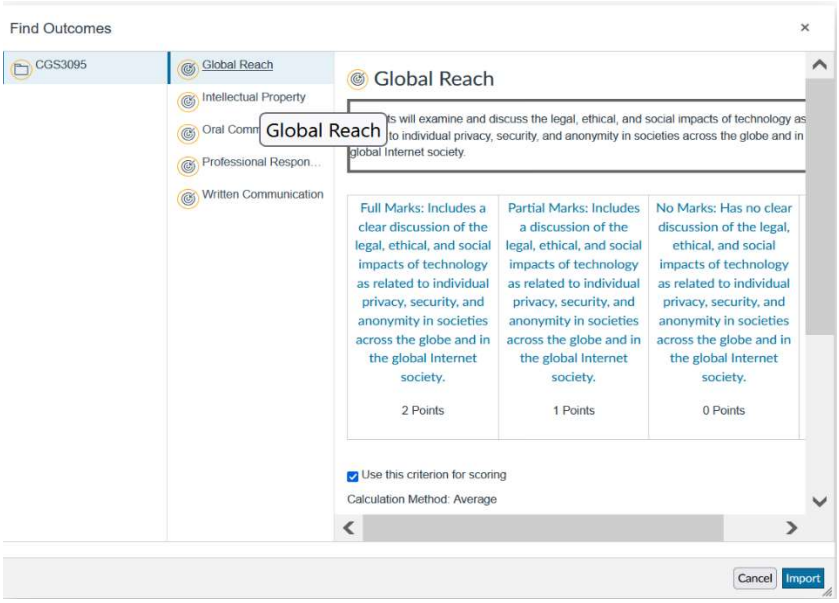
As mentioned, faculty must choose which assignment(s) in their sections will be used to assess each outcome. Once they have made that decision, there are several ways to associate an assignment with an outcome on Canvas. One of the most common methods will be through a rubric.



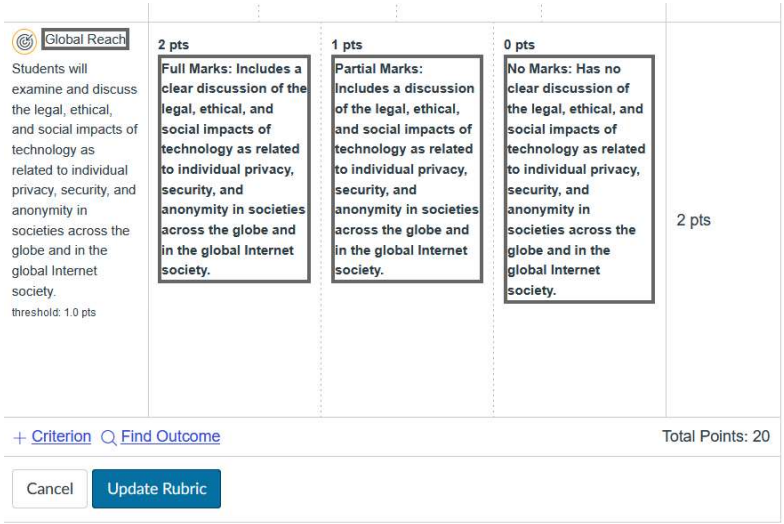
Rubrics can be created by clicking “Rubrics” on the left side of your Canvas site, then “Add Rubric”.

At the bottom of the page, there will be a panel that offers the option of adding a new criterion for the rubric, or “Find Outcome”:

Selecting the latter will open a page that will allow you to select one of the outcomes for the course:

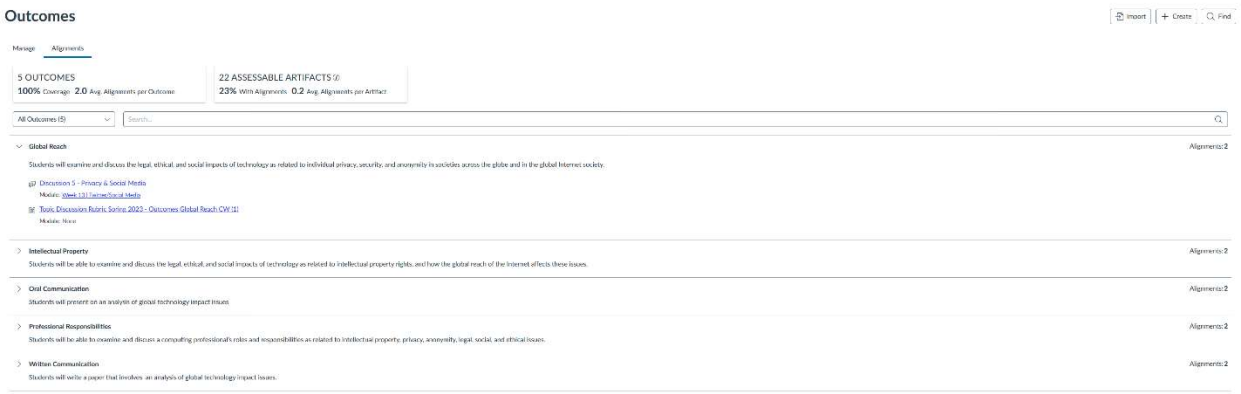


Selecting “Import” will automatically insert this outcome along with its scoring system, into the rubric for this assignment:



Note that because the option was also given to add additional criterion, a rubric for this assignment can consist of a mixture of metrics chosen by the faculty to assess this assignment, and metrics that map directly to SLOs.

Once a faculty has associated an assignment with an outcome, this association will automatically appear in the “Alignments” tab of the “Outcomes” navigation:



Use of Results and Follow Up

The use of results and follow up will involve a table structured similarly to this:

Outcome Name	# of students assessed	# of students that met minimum criteria for success	Analysis*	Use of Results for Improvement for Student Learning*

For Use of Results, Columns 1-3 will be populated with assessment data from the current year based on faculty submissions of rubrics through Canvas. The two remaining columns (marked ‘*’) will need to be completed by faculty teaching the course.

Analysis: What do the results within columns 1-3 demonstrate?

Use of Results for Improvement for Student Learning: Based on the results and this analysis, what measures can we take to improve attainment of this outcome?

The Follow Up will be entered into the prior year report, in a subsection of “Use of Results”. Columns 4 and 5 are not required.

An entry like this must be completed for every outcome of every degree program. Data will be provided to faculty broken down by degree program.