Information Systems and Technology Accreditation Council *(ISTAC)*

Institutional Accreditation Questionnaire

- **Applied Degree**
- **Diploma**
- **Certificate**

As of January 1, 2021

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Abstract

These guidelines are written to aid faculty and administrators involved in the accreditation of Information and Communications Technology (ICT) programs within public and private not-for-profit universities, colleges and institutes of technology. These guidelines are administered by the Information Systems and Technology Accreditation Council *(ISTAC)* and apply to programs leading to certificates, diplomas and applied degrees and are typically one to four years of duration. Specific criteria are applicable depending upon the duration and intent of the programs undergoing accreditation.

The following sections are aligned with ISTAC accreditation criteria and are intended as a tool for accreditation seeking institution. Questions and suggestions for improvements may be sent directly to the CIPS Accreditation Secretariat (accreditation@cips.ca).

CIPS Contact Information

This questionnaire is intended to elicit information to assist the ISTAC and the accreditation team in appraising your program(s) against the criteria.

All information should be submitted at least **six weeks** prior to the visit to:

CIPS Accreditation Secretariat

16-1375 Southdown Rd

Suite 802

Mississauga, ON, L5J 2Z1

For questions contact:

CIPS Accreditation Secretariat at accreditation@cips.ca

Draft Accreditation Report Production Guidelines

The following draft accreditation report production guidelines are used by the accreditation team. The Department can expect to receive the draft report within the noted timelines.

Regular review single program	-	Draft ready within 6 to 8 weeks
Regular review multiple programs	-	Draft ready within 8 to 10 weeks

Institutional Information

School Name:	
Program Name(s) (for which accreditation is being sought):	
Submitted by (name and position):	
Date Submitted:	
Contact Information (tel. and e-mail):	

1. Introduction

The Information Systems and Technology Accreditation Council is an autonomous body established by the Canadian Information Processing Society.

The Council has as its objectives:

1. To formulate and maintain high educational standards for universities, colleges and institutes of technology offering information and communications technology (ICT) programs, and to assist those institutions in planning and carrying out educational programs.
2. To promote and advance all phases of ICT education with the aim of promoting public welfare through the development of better educated computer practitioners and professionals.
3. To foster a cooperative approach to ICT education among industry, government, and educators both nationally and globally to meet the changing needs of society.

The purpose of accreditation is to recognize programs whose graduates will have received an outstanding undergraduate education in ICT – an education informed by state-of-the-art professional practice, sound underpinnings of information and computer technologies, and the needs and applications of industry. Accreditation can also be an important component in an Institution's quality monitoring and improvement program.

ISTAC accredits programs primarily in Canada but welcomes institutions from outside Canada wishing to undergo accreditation based on ISTAC criteria and standards.

ISTAC accreditation criteria incorporate principles of *outcomes-based* accreditation. This contrasts with an emphasis on educational *inputs*, such as number of courses taught, and lists of topics in the curriculum. The emphasis of these criteria is instead towards *outcomes*, i.e., *identifying and setting sound educational objectives and measuring the extent to which these objectives have been met*. These objectives and outcomes can be expressed at course or program levels.

More specifically, outcomes-based accreditation requires the setting of clear program *objectives* (i.e. the intended purpose of the program) and program *outcomes* which describe what students should know and be capable of doing upon graduation from the program. Program outcomes can also be expressed as *graduate attributes*, defined as 'a set of individually-assessable outcomes that are indicative of a graduate's potential competency' [SA citation]. Institutions will typically set their own specific program objectives, outcomes and graduate attributes but ISTAC accredited programs are expected to substantially meet one of three ranges of graduate attributes as defined by the Seoul Accord which has established a set of internationally recognized expectations for students graduating from various types of ICT programs.

ISTAC accreditation is designed primarily for applied degree, diploma and certificate programs as offered through universities, colleges, institutes of technology and other institutes of higher learning. Specific ISTAC criteria are provided corresponding to the three levels or ranges of graduate attributes as set by the Seoul Accord[1]. As such, ISTAC accreditation is intended to be applied to a wide range of program types and durations, providing institutions with the flexibility to design ICT program outcomes and graduate attributes to meet the needs of their institutional mandates, students and target industries.

[1] "The eight signatories of the Seoul Accord have joined together for the primary purpose of contributing to the improvement of computing education worldwide through the mutual recognition of accredited academic computing programs that prepare graduates for professional practice. By establishing desired attributes for graduates of computing programs that prepare graduates for professional practice..."

URL: http://www.seoulaccord.org/about.php

2. Method of Evaluation

Programs submitted for accreditation will be evaluated based on data submitted by the institution in the form of a self-study report and other supporting documentation, together with the report of an on-site visit by a qualified team representing the Council.

The self-study report should follow a structured outline to be described in Sections 5 though 11 and involves answering a series of questions and completion of tables. During the process of creating the report, the institution should demonstrate to itself and to the Council that it can meet the accreditation criteria or, if not, it should demonstrate that it is aware of the shortcomings and has a concrete plan to rectify them. In particular, the report should demonstrate how all aspects of the program, including students, faculty, resources and curriculum together enable the achievement of a set of defined program objectives, discussed in Section 4. The self-study report will be used as primary input for the analysis of the program by the on-site visiting team.

The purpose of the site visit is three-fold:

First, the site visit should assess factors beyond those described in the questionnaire. The overall educational environment, the morale and calibre of the staff and the student body, and the approach taken to the work performed are examples of intangible qualitative factors that are not always apparent in a written statement.

Second, the visiting team can observe firsthand the strengths, unique characteristics and areas of potential improvements related to the program.

Third, the team will assess and validate the material in the self-study including:

1. Organization structure and administration of the institution.
2. Education programs offered, and credentials conferred by the institution overall.
3. The basis of and requirements for admission of students both in general and to the program(s) undergoing accreditation.
4. Number of students enrolled in the educational programs undergoing accreditation.
5. Teaching staff and teaching loads.
6. Commitment to and support for professional development, industry involvement and research.
7. Resources:
    a. financial: total budget, non-salary portion of budget and salary scales,
    b. physical: classrooms, laboratories, equipment and offices,
    c. support staff: administrative, clerical, laboratory, research and technical,
    d. reference materials: electronic resources and/or digital libraries,
    e. additional facilities, where they exist and are relevant (e.g., entrepreneurship labs, maker spaces, innovation labs)
8. Curricular content of the program(s).
9. Program delivery and outcomes, including sampling of transcripts, examinations, projects, assignments, etc.
10. Innovative and special features of the program.
11. Institutional policies and supports.

2.1 Supplementary Information

Please submit the following documents in addition to this completed questionnaire. Ideally, all documents are submitted in softcopy format (e.g. USB stick or online – see web template submission on http://www.cips.ca/system/files/CIPSCollegeTemplate.zip

- Organization Chart: include a diagram of the administration of the school emphasizing the reporting structure of the department offering the program to be accredited
- Calendar or Program Handbook: include copies of all external publications which describe the school and the program.
- Program Entrance Requirements: provide the entrance requirements of the program(s).
- Facilities: provide a detailed lab room listing with computer hardware specifications, and a listing of software used in the credential, as well provide any student computer specification documentation.
- Completed Visit Agenda *(refer to sample agenda in the appendix of this document)*

Note: ***One copy*** *of the materials should be made available (in either hard or soft copy format) and one copy should remain on-site.*

2.2 Required On-Site Course Information

In addition to the course outlines provided in the questionnaire package, the school also needs to ensure that the team can verify students' course outcomes against course expectations. The school therefore needs to gather the following materials in a central location in hard or soft copy format (i.e. the accreditation team central meeting room) for the accreditation team to review.

Note: Failure to provide this information on site may result in the cancellation of the visit. The cost of rescheduling the visit will be the responsibility of the school.

Please mark the following table to confirm that you will have materials on site. If materials are not available, please explain the reason.

Course Type	Diploma	Advanced Diploma	Degree
☐ Programming language courses: ▪ First and second year ▪ Third year ▪ Fourth year			
☐ Database courses			
☐ Operating System course			
☐ Systems Analysis and Design courses			
☐ Final project course			
☐ Emerging topic courses *(if applicable)*			
☐ Communication/English course			
☐ Liberal Studies course			
☐ Other courses being highlighted			

Course Exemplar Requirements
Course Number
Course Name
Instructor(s)
Calendar Description
Course topical timelines and curriculum outlines *(Detailed outline each instructor creates showing timelines / depth of curriculum coverage.)*
Reference Material Sample(s)
Assignments (1 final assignment) ~ Average & High scoring
Final Exam ~ Average & High scoring
Term/Capstone Project (student sample)

3.Glossary

For the purpose of ISTAC accreditation, the following definitions apply.

Graduate Attributes: A high level 'set of individually-assessable outcomes that are indicative of a graduate's potential competency' [https://www.seoulaccord.org/document.php?id=79]. The Graduate Attributes used by ISTAC are those established by the Seoul Accord (www.seoulaccord.org).

Three ranges of attributes are defined:

Computing Professional

Computing Technologist

Computing Technician

Degree program*: A program typically 4 years in duration leading to a baccalaureate degree. The expected graduate attributes will be in the **Computing Professional** range.

Diploma Program*: A program typically 2 or 3 years in duration leading to a Diploma, Diploma of Technology or similar credential. The expected graduate attributes will be in the **Computing Technologist** range.

Certificate Program*: A program typically 1 year in duration leading to a Certificate. The expected graduate attributes will be in the **Computing Technician** range.

Objective: Planned goals or intent of a program or educational unit (e.g. course). Generally expressed from the perspective of the teacher or faculty. Occasionally the term is used interchangeably with Outcome.

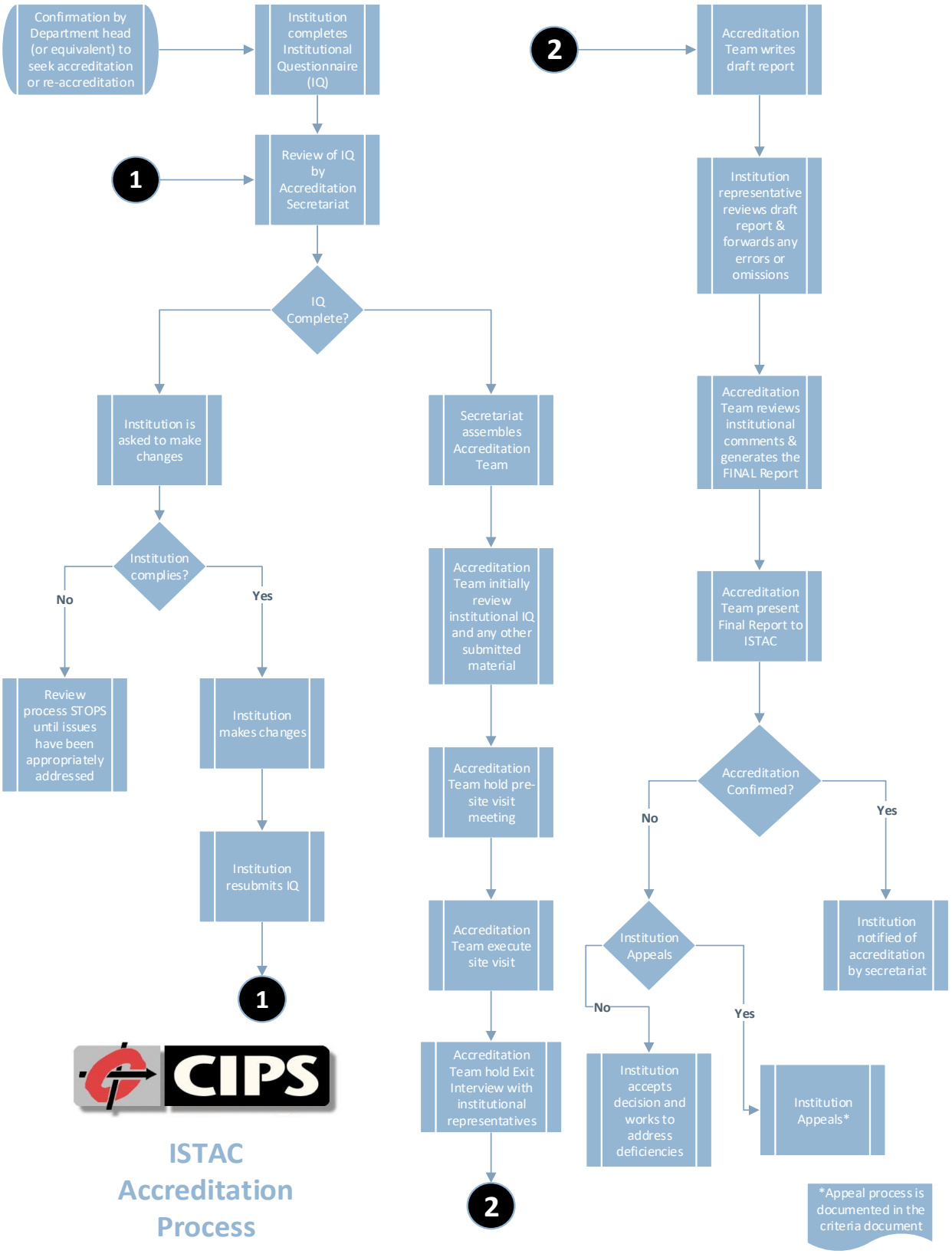
Outcome: Measurable evidence that an objective has been met. Also refers to the expectations of the students' achievements or accomplishments after the educational activity. Generally expressed from the learners' perspective. Occasionally used interchangeably with Objective.

Quality Indicator: Qualitative or quantitative data used to help assess whether an objective has been met.

Rubric: A document describing how an exam, assignment or other student activity should be evaluated, specifically mapping to the learning objectives that should be assessed.

* These typically refer to an initial credential in the ICT area. The expected graduate attributes for programs which require advanced prerequisites, especially in the ICT field, may differ depending upon the nature of the program. E.g. the expected graduate attribute for a one-year certificate program where the prerequisite is a degree or diploma in an ICT area might be in the Computing Technologist or Computing Professional range. For further information which graduate attribute range might be appropriate for a specific program, please contact the CIPS Accreditation Secretariat.

4. Accreditation Process



5. Objectives and Outcomes

Each program must have a set of program objectives and graduate attributes describing what students should know and be capable of doing following graduation.

Institutions and individual programs have flexibility in setting their own program objectives, outcomes and graduate attributes but they must also substantially meet the appropriate graduate attribute range set by the Seoul Accord. Institutions may: adopt these verbatim; add to them; or reword some of them to meet local conditions or conform to internal requirements. In some situations, a documented mapping of the institution's program objectives to the Seoul Accord attributes may be required to demonstrate that the appropriate attribute range has been achieved.

5.1 The ISTAC Graduate Attributes

Table in Appendix A provides profiles of graduates of three types of postsecondary educational computing programs, as defined for the Seoul Accord.

5.2 Quality Indicators and Outcomes

Evidence should be provided that the graduate attributes defined for each program have been fulfilled. In other words, there must be evidence that what students actually know and are capable of doing following graduation correspond with the defined program-level objectives. This is achieved by *quality indicators*. These are qualitative and quantitative data gathered by the institution.

The Accreditation will review quality indicators in each of the following areas/sections: Faculty, Students, Curriculum, and Resources. Suggestions for quality indicators are provided in each corresponding section. The self-study and accreditation process largely involve studying and verifying the quality indicators to ensure that the outcomes correspond to the defined objectives.

5.3 Quality Improvement/Enhancement Process

Evidence should be provided that the department has a quality enhancement process to improve the programs under accreditation through regular review and upgrade of program objectives and graduate attributes.

6. The College Environment

6.1 College Description

- Include an overall description of the institution.

6.2 Program Enrollment Data

- Complete the following table to show the enrollment pattern.

Program ID:	4 years ago	3 years ago	2 years ago	1 year ago	Current year
Applications FT					
Applications PT					
Accepted FT					
Accepted PT					
Enrolled FT					
Enrolled PT					

* *If applicable* create a table for each program submitted for review

- Complete the following tables to show graduate trends:

Numbers of graduates in each of the last five years					
Program ID	**5 years ago**	**4 years ago**	**3 years ago**	**2 years ago**	**most recently**

7. Faculty

Note: Relevant salary policy documents, collective agreements, detailed faculty CVs, and so forth should be made available to the team during their visit. These do not have to be submitted with the materials outlined in this questionnaire.

7.1 Salary/Financial Data

- Please complete the following tables:

Collective Agreements	Minimum	Maximum	Comments or clarifications
Salaries			
Professional or other allowances			
Grants			
Other funding			
Other financial support			

	(as of this past April 1)
Number of full-time faculty:	
Number of other faculty:	
Number of open positions:	
Number of additional projected positions:	

7.2 Faculty Professional Profiles

Please complete the following tables:

Name *(or #1..N)*	**Status** *Full-Time (FT)* *Part-Time (PT)* *Sessional (SE)*	**Degree**	**Major**	**Professional Experience (# of yrs / type)**	**Subject(s)Taught**

7.3 Faculty Workload

Name *(or #s 1..N)*	**Teaching Hours/Week**	**Other Hours/Week**	**Description of Other Duties**	**Total Hours**

- How many courses are taught annually by non-regular faculty?
- How is the administrative load distributed among the faculty?
- How is the teaching load distributed among the faculty?
- Is there a formal policy on teaching loads? If so, please include a copy of the policy.
- How are teaching assignments made?
- Professional development
    - What is the college's formal policy on professional development? *(a copy of the policy can be attached to this document or a URL reference can be provided)*
    - What is the annual funding allocation for faculty professional development? *(a five-year average can be provided)*
- In general, what type of professional development activities are undertaken by faculty? *(i.e. formal and informal learning and development activities, formal writing activities, reading and research related activities).*

8. Facilities and Resources

All the disciplines in an accredited program must have buildings, offices, laboratories, equipment, support staff, and fiscal resources that are appropriate for the characteristics of the program that is being undertaken. The accreditation team will review and tour these facilities as part of the on-site visit.

Suitable quality indicators for the self-assessment and accreditation report include the following, all assessed relative to the student population:

- Budget for resources,
- Computers and software in labs,
- Numbers and levels of expertise of technical and support staff,
- Satisfaction of students and faculty with the resources available,
- Sufficiency of the resources to teach the courses discussed in the Curriculum section, and to meet the Program Objectives

To evaluate the quality of resources, the visiting team will inspect them while touring the facilities, and will interview students, staff and faculty. The team will also study budgets and policies in place for ensuring the resources are maintained and replaced as they become obsolete.

Please address the following points:

1. Summarize the physical facilities (including offices, laboratories, and classrooms) available to meet program needs.
2. Describe the computing resources (hardware and software) available to your students. List microcomputer and software separately from mainframe software.
3. What policies and procedures are in place for maintaining and upgrading software and equipment?
4. Indicate the names of all programs (whether candidates for accreditation or not) that share the use of this hardware. Also include information regarding any administrative functions that may share these resources.
5. What are the opening hours of the computational facilities (i.e. terminals and microcomputers)?

9. Administration, Planning and Internal Process

A capable administration must be in place that understands the special needs of a technical program. Formally documented policies and procedures should be in place and well communicated to faculty, students and other stakeholders as appropriate. Planning (long and short term, operational and strategic) must take place at all levels, and a monitoring and feedback process must be present.

There should be a budget provision and a plan for updating equipment and software on a regular basis. Procedures for the disposal of obsolete equipment should also be in place. Planning for equipment should be consistent with student enrolment and other uses of the facilities such as continuing education classes and special courses and seminars. A documented process must be in place to assure continuity and sustainability of ongoing program quality and currency.

The process for ongoing curriculum renewal must include the gathering of data from a variety of sources to inform the curriculum renewal process, including feedback from graduates and industry.

Please address the following points:

1. Provide documentation that describes the planning, monitoring and feedback (long and short term, operational and strategic) processes at all levels. This may include internal institutional processes, governmentally mandated processes, or partner-mandated processes.

2. How does the program articulate performance indicators (provide some examples of how performance is measured - i.e. pre-requisites, employer feedback, graduate survey feedback, attrition rates, course failure rates, employment rates, etc…)

10. Students

A CIPS accredited program is typically characterized by its enthusiastic students. Student selection and retention standards will be appropriate to the program. Well established protocols will be in place for students transferring from other institutions, programs, or branch campuses.

A student advisory system for both academic and personal support is an important component in any educational program. The advisory system should embrace course selection, graduation advice and resolution of problems of a personal nature. Career guidance and employment support both pre- and post graduation is a valuable resource.

Please address the following points:

1. Identify feedback from employers, assessed through questionnaires or surveys that ask employers the extent to which students they hire possess the graduate attributes defined for the program.
2. List jobs offered for co-op and internship programs, and the proportion of students who find satisfactory employment following graduation.
3. List prizes and scholarships awarded to students, especially external ones.
4. Provide data on student's satisfaction with their program and progress as assessed through questionnaires and interviews.
5. What support for students are made available during the program?
6. What are some supports for students upon graduation eg. job hunting?
7. What follow-up mechanisms for graduate employment outcomes ?

11. Industry Support

An important feature in the success of an information systems program is the interaction between the school and the local business community. A good interaction means support from industry and advice for the instructional staff.

Please address the following points:

1. Provide a copy of the program Advisory Committee Terms of Reference.
2. Provide a copy of the Advisory Committee's last two meeting minutes.
3. Provide the current Advisory Committee membership *(names and organizations)*.
4. How many times during the year does the Advisory Committee meet?
5. Does the program(s) use guest lectures? If yes, provide the names and content of the guest lectures in the previous year.
6. Does the faculty interact with local businesses? If yes, describe the level of interaction.

12. Curriculum

The curriculum must serve the needs of the students, employers and the community. Accredited programs should allow all these stakeholders the opportunity to provide an influence on the curriculum and to ensure that graduates are qualified for information systems related employment. It should foster the development of graduates with a diverse set of skills to meet immediate and long-term needs. It is particularly important that graduates be prepared for 'life-long learning' to maintain currency in this rapidly changing and evolving field.

Note: If accreditation is sought for multiple programs, please ensure that the relevant information is submitted for all programs. Please copy the curriculum tables and use one table for each program.

12.1 General Curriculum

Please complete the following tables for the program(s) for which you are seeking accreditation.

Program to be considered		Graduate Attributes
Official Program(s) Name	**Program ID(s)**	**Graduates should be able to: ...**

NOTE: Program ID may be an acronym or short name by which the program is known. If such a name is not in common use, you may identify the program by any means you wish (e.g., short mnemonic or number) so that the entries in subsequent tables on this questionnaire may be easily related to the corresponding programs.

12.1.1) How does the Department ensure that the program(s) (and courses) evolves in response to industry needs (include any references or documentation to appropriate environmental scans and/or Program Advisory Committee recommendations.)?

12.1.2) How does the Department ensure that the program(s) (and courses) evolves in response to other stimuli (include curriculum renewal policies and procedures).

12.2 Breadth and Depth of Knowledge in ICT Topics to fulfill Graduate Attributes Requirements

Please note: You are welcome to add additional rows to any table where appropriate based on your program(s) current state.

12.2.1 Key Areas of ICT - Breadth of Knowledge [Graduate Attribute 2]

The following five topics listed below are illustrative of a range of topics that an accredited program would be expected to provide to fulfill the required graduate attribute range in terms of breadth of knowledge. Again, Institutions may design their programs to fulfill the graduate attribute requirements in different ways.

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attribute 2	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
Software Engineering ~ ***Basic Knowledge*** ***Advanced Knowledge***			
Algorithms and Data Structures			
Systems Software			
Computer Elements and Architectures			

Theoretical Foundations of Computing			

12.2.2 Key Areas of ICT Programs - Depth of Knowledge [Graduate Attribute 3]

Each graduate attribute range has differing requirements for depth of knowledge and capabilities. The following is illustrative of the expectations of each attribute range for the five topic areas (Software Engineering, Algorithms and Data Structures, Systems Software, Computer Organization and Architecture, Theoretical Foundations).

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attribute 3	**Computing Professional Graduate** **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** **Course(s) Names(s)/Numbers(s)**
Basic Knowledge of each Area			
Advanced Knowledge in at least 1 or 2 key Area			

12.2.3 Exposure to Multiple Programming Languages and Paradigms [Graduate Attribute 5]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attribute 5	**Computing Professional Graduate** **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** **Course(s) Names(s)/Numbers(s)**
Programming Languages and Paradigms			

12.2.4 Significant Design/Project Experience [Graduate Attribute 4 and 6]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes 4 and 6	Computing Professional Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technologist Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technician Graduate _____ Course(s) Names(s)/Numbers(s)
Capstone or Major Project			

12.2.5 State-of-the-Art Tools and Practices [Graduate Attribute 4 and 5]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes 4 and 5	Computing Professional Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technologist Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technician Graduate _____ Course(s) Names(s)/Numbers(s)
Varied Hardware			
Operating Systems			
Programming Environments			

12.2.6 New Areas of Computing [Graduate Attribute 5 and 10]

Computer Science is a rapidly developing and growing subject. At the current time, these newer developments include such areas as mobile devices and networks, health and medical informatics, cyber security, bioinformatics, data mining, quantum computation, augmented and virtual reality, machine learning, artificial neural networks, robotics, and so forth. While it is not to be expected that an accredited program will include material in all of these areas, accredited programs should nonetheless demonstrate that they recognize the rapidly evolving nature of the subject, and should include some of the newer areas of the subject, particularly within the intermediate and advanced courses which they offer to their students.

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes **5 and 10**	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
New Areas of Computing			

12.4 Mathematics [Graduate Attributes 1f and 1g]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attribute 1	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
Discrete Mathematics			
Probability and Statistics			

Logic, Boolean Algebra and Graph Theory			

12.5 Breadth and Depth in Topics Outside Computing and Mathematics [Graduate Attribute 9]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attribute 9	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
Science, Engineering, or Business			
Humanities			

12.6 Non-Trivial Problem Solving in Teams [Graduate Attributes 2, 4, 5 and 6]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes **2, 4, 5, and 6**	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
Capstone or Major Team Project			

12.7 Written and Oral Communication Skills [Graduate Attribute 7 thru 9]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes 7 and 9	Computing Professional Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technologist Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technician Graduate _____ Course(s) Names(s)/Numbers(s)
Business Communication			

12.8 Professionalism [Graduate Attribute 8 and 9]

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes 8 and 9	Computing Professional Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technologist Graduate _____ Course(s) Names(s)/Numbers(s)	Computing Technician Graduate _____ Course(s) Names(s)/Numbers(s)
Professionalism / Ethics			

13. Innovation and Research

Although research is not usually considered to be mandatory for a school to fulfill its mandate, such an involvement can be considered indicative of an ongoing commitment to innovation and excellence. This innovation could take the form of the devising of new pedagogical approaches, or the development of new course notes and manuals. Research work could be evidenced through the personal involvement of faculty members in the use of computers, or in their collaboration with local businesses, university or government research centers.

Identify course(s) which meet the graduate attribute(s) by completing the following table:

Attributes **4 and 5**	**Computing Professional Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technologist Graduate** _____ **Course(s) Names(s)/Numbers(s)**	**Computing Technician Graduate** _____ **Course(s) Names(s)/Numbers(s)**
Identify courses or activities which meet …			

Appendix A

	Attributes	Differentiating Characteristic	… for Computing Professional Graduate	… for Computing Technologist Graduate	… for Computing Technician Graduate
1	Academic Education	Educational depth and breadth	Completion of an accredited program of study designed to prepare graduates as computing professionals.	Completion of a program of study typically of shorter duration than for professional preparation.	Completion of a program of study typically of shorter duration than for technologist preparation.
2	Knowledge for Solving Computing Problems	Breadth and depth of education and type of knowledge, both theoretical and practical	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to defined and applied computing procedures, processes, systems, or methodologies.	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to a wide variety of practical procedures and practices.
3	Problem Analysis	Complexity of analysis	Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.	Identify, formulate, research literature, and solve broadly-defined computing problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialization.	Identify and solve well-defined computing problems reaching substantiated conclusions using codified methods of analysis specific to the field of activity.
4	Design/ Development of Solutions	Breadth and uniqueness of computing problems, i.e., the extent to which problems are original and to which solutions have	Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for	Design solutions for broadly defined computing technology problems, and contribute to the design of systems, components, or processes to meet specified needs	Design solutions for well-defined computing problems, and assist with the design of systems, components, or processes to meet specified needs with appropriate consideration for

	Attributes	Differentiating Characteristic	… for Computing Professional Graduate	… for Computing Technologist Graduate	… for Computing Technician Graduate
		previously been identified or codified.	public health and safety, cultural, societal, and environmental considerations.	with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	public health and safety, cultural, societal, and environmental considerations.
5	Modern Tool Usage	Level and appropriateness of the tool to the type of activities performed.	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.	Select and apply appropriate techniques, resources, and modern computing tools to broadly-defined computing activities, with an understanding of the limitations.	Apply appropriate techniques, resources, and modern computing tools to well-defined computing activities, with an awareness of the limitations.
6	Individual and Teamwork	Role in, and diversity of, the team	Function effectively as an individual and as a member or leader in diverse teams and in multi- disciplinary settings.	Function effectively as an individual and as a member or leader in diverse technical teams.	Function effectively as an individual and as a member in diverse technical teams.
7	Communication	Level of communication according to the type of activities performed.	Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.	Communicate effectively with the computing community and with society at large about broadly defined computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.	Communicate effectively with the computing community and with society at large about well-defined computing activities by being able to comprehend the work of others, document one's own work, and give and understand clear instructions.

	Attributes	Differentiating Characteristic	… for Computing Professional Graduate	… for Computing Technologist Graduate	… for Computing Technician Graduate
8	Computing Professionalism and Society	No differentiation in this characteristic except level of practice	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to computing technologist practice.	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to computing technician practice.
9	Ethics	No differentiation in this characteristic except level of practice.	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.	Understand and commit to professional ethics, responsibilities, and norms of computing technologist practice.	Understand and commit to professional ethics, responsibilities, and norms of computing technician practice.
10	Life-long Learning	No differentiation in this characteristic except level of practice.	Recognize the need and can engage in independent learning for continual development as a computing professional.	Recognize the need and can engage in independent learning for continual development as a computing technologist.	Recognize the need and can engage in independent learning for continual development as a computing technician.

Appendix B

Information Systems and Technology Accreditation Council

(ISTAC)

Proposed

Two-Day Visit Agenda

Assumptions:

- Suggested times are flexible and can be changed to accommodate the institution's needs.
- Titles refer to generically used terms and reflect an area of responsibility.
- The visitation team requests a meeting room where they can have their private meetings during the visit and meet with the faculty.
- The final agenda needs to be available to the team at least 3 weeks prior to the visit.

Day One

Item	Suggested Time	Room Number	Individual(s) Name(s)
Meeting with Program Head	9:00 a.m. - 9:30 a.m.		
Tour of Campus *(including computer center and laboratories)*	9:30 a.m. - 10:15 a.m.		
Team Break	10:15 a.m. - 10:30 a.m.		
Meeting with Program Faculty * The timing of this meeting will depend on the number of faculty. * Faculty meetings should be set up in groups of two, three or four. * Approx. 10 to 15 minutes should be allocated per group of faculties.	10:30 a.m. - 12:00 a.m.		
Students - Lunch Interview	12:00 - 1:15 p.m.		
Meeting with Support Faculty/Staff ***(con't)***	1:15 p.m. - 1:45 p.m.		
Team Review of Curriculum	1:45 p.m. - 4:00 p.m.		
First Day debriefing with Program Head to check for factual findings	4:00 p.m. - 4:30 p.m.		
End of Visit Day One	4:30 p.m.		

Day Two

Item	Suggested Time	Room Number	Individual(s) Name(s)
Meeting with Program Head	9:00 a.m. - 9:15 a.m.		
Meetings with senior administrators: *(15-minute blocks)* Dean VP Academic Curriculum Services Registrar ********Any other person(s) the Department deems appropriate.*	9:15 a.m. - 10:15 a.m.		
Team Break	10:15 a.m. - 10:30 a.m.		
Team Review of Curriculum	10:30 a.m. - 12:00 p.m.		
Lunch and Meeting with Program Advisory Committee	12:00 noon - 1:30 p.m.		
Team Review and Drafting of Initial Findings	1:30 p.m. - 3:00 p.m.		
Final Debriefing with Program Head	3:00 p.m. - 4:00 p.m.		
End of Accreditation Visit	4:00 p.m.		