



Program Specification

Program Name:	Chemical Engineering Technology (CHET)
Qualification Level:	Graduate Diploma Degree
Department:	Chemical Engineering Technology (CHET)
College:	College of Applied Industrial Technology (CAIT)
Institution:	Jazan University (JU)

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A. Program Identification and General Information

1. Program Main Location:
Al-Haqu
2. Branches Offering the Program:
NONE
3. Reasons for Establishing the Program: (Economic, social, cultural, and technological reasons, and national needs and development, etc.)
<p>Since the inauguration of Jazan Economic City by the Custodian of the Two Holy Mosques in November 2006 there has been an increasing demand for professional technicians in a variety of fields to cover the needs of heavy industries and other secondary industries. In view of this, the establishment of colleges in neighboring areas will meet Saudisation plans and in turn, produce highly qualified technicians who have the developed skills and competencies to bridge the gap between supply and demand regarding qualified technicians.</p> <p>The Higher Education Council issued a decision in 14/11/1433H – No. 11/71/1433 to establish a conventional Baish Community College (BCC) which was approved by Royal Decree No. 7385 in 26/2/1434. Then the college has been reconstructed to be industrial college and Chemical Engineering (CHET) Department has been approved by the University council on 3/12/1436 (16/9/2015) instead of Tourism and Hospitality Department. An approval from Higher Ministry of Education was conducted on 15/4/1439, Decree No. 21/14/1439.</p> <p>As a final stage, the college name has been changed from Baish Community College to College of Applied Industrial Applications (CAIT) on 12/5/1439 such that the name is aligned with Vision 2030 and compatible with its graduates.</p> <p>The first intake of students was admitted in 2015 with the graduation of this cohort expected in 2018 with an Associate of Science and having completed a study plan of 92 credit units. This is commensurate with the learning needs associated with modern technology and the requirements of the labor market. It also allows the graduates to interact and integrate in the information society and knowledge-based economy.</p> <p>It is worth noting that according to the decree of the Ministry of Higher Education No. 59480/4/42 and the decree of JU Council No. 8/5/1442, the “Associate of Science” degree had been modified and upgraded to be “Graduate Diploma” degree to comply with the Saudi Standard Classification of Educational Specializations. The decree was in action since the start of Academic Year 2020/2021 (Fall 2021).</p> <p>The curriculum of study is designed to give the student adequate and equally balanced units in each discipline of engineering technology through a combination of compulsory and elective courses that are indispensable for students and which provide the engineering technology foundation for the graduates. It is of note that the curriculum of study takes into consideration the critical importance of English language and communication skills to the skill sets required in the workplace.</p> <p>CAIT programs offer a blend of theoretical and practical knowledge together with practical training (Co-op training for unsponsored students and On-the-Job training for sponsored students), with the goal of meeting the needs of our industrial partners.</p>

College of Applied Industrial Applications (CAIT) is an entity within Jazan University (JU). While it has its own distinct vision, mission, and mission statement, these are reviewed concomitantly with the mission and vision of Jazan University to ensure relevance.

CAIT's mission is to be able to supply well qualified work-ready graduates, enabling companies to tap into a work force already located in the catchment area of the economic city. The technical programs offered are those identified to supply industrial manpower to the area and which will allow our graduates ready access to the workplace. The college aims to establish partnerships in the future with industrial concerns locating to the economic city. The importance of partnerships and collaboration with industry is stressed in the strategic goals as presently defined. The program's goals and objectives reflect those strategic goals.

4. Total Credit Hours for Completing the Program: (92Credit Hours)

- 1- Preparatory Year (2 Semesters) 29 Credit Hours
- 2- Freshman Year (2 Semesters) 35 Credit Hours
2 Credit Hours Summer Semester
(Elective Course) COOP or OJT Summer Training
- 3- Sophomore Year (2 Semesters) 14 Credit Hours (Compulsory Courses)
12 Credit Hours (Elective Courses)

5. Learning Hours: (208 Contact Hours per semester over 3 years of study)

The length of time that a learner takes to complete learning activities that lead to achievement of program learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times)

The average contact hours that each student takes to achieve his learning outcomes for the program and complete his learning activities is 208 contact hours per semester over 3 years of study (6 regular semesters + 2 summer semesters), i.e. ~26contact hours per semester as an average. These contact hours include ~58 contact hours for theoretical part during lecturing and ~150 contact hours for practical part during labs, workshop, and tutorial sessions.

An extra 15 hours per week may be assigned for projects, presentation, and other activities such as assignments and homework.

6. Professional Occupations/Jobs:

The Chemical Engineering Technology (CHET) program is aimed at the following areas of work:

- 1- Oil and chemical industries
- 2- Food industries
- 3- Desalination and water treatment
- 4- Environmental pollution

7. Major Tracks/Pathways(if any):

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
1. Not Exist	--	--

8. Intermediate Exit Points/Awarded Degree(if any):

Intermediate exit points/awarded degree	Credit hours
1. Not Exist	--

B. Mission, Goals, and Learning Outcomes

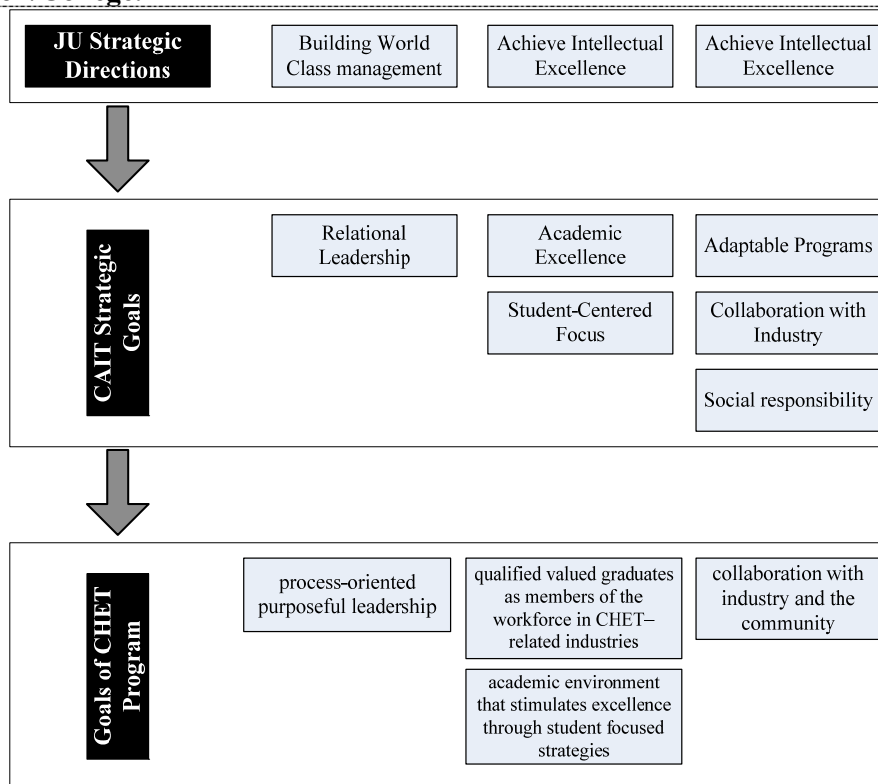
1. Program Mission:

To prepare well-qualified technicians for immediate employment in the field of Chemical Engineering Technology, through the provision of high-quality technical programs and strategic partnership

2. Program Goals:

- 1- To provide process-oriented purposeful leadership.
- 2- To prepare qualified graduates who are valued as members of the workforce in CHET-related industries.
- 3- To provide an academic environment that stimulates excellence through student focused strategies.
- 4- To collaborate with industry and the community to cater to their needs and the needs of the program's students.

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

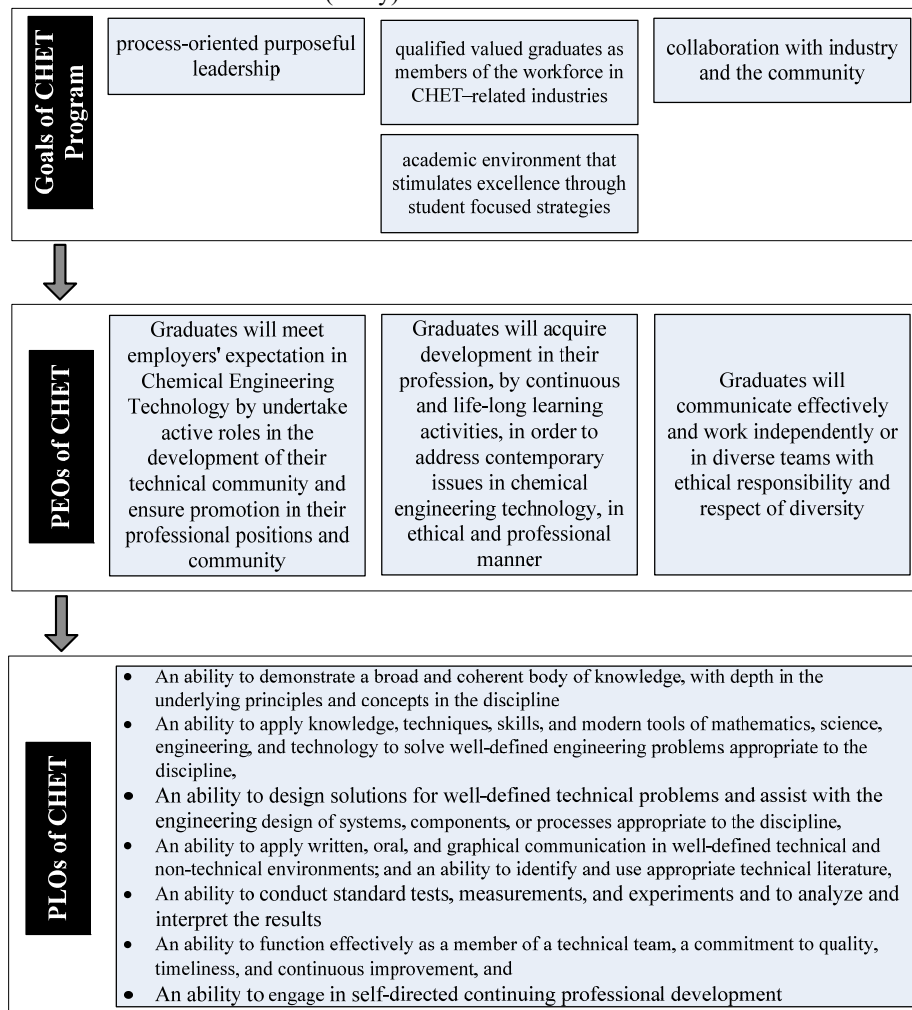


4. Graduate Attributes:

- 1- Graduates will meet employers' expectation in Chemical Engineering Technology by undertake active roles in the development of their technical community and ensure promotion in their professional positions and community.
- 2- Graduates will acquire development in their profession, by continuous and life-long learning activities, in order to address contemporary issues in chemical engineering technology, in ethical and professional manner.
- 3- Graduates will communicate effectively and work independently or in diverse teams with ethical responsibility and respect of diversity.

5. Program learning Outcomes+	
Knowledge and Understanding	
K.1	An ability to demonstrate a broad and coherent body of knowledge, with depth in the underlying principles and concepts in the discipline,
Skills	
S.1	An ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline
S.2	An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline,
S.3	An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature
S.4	An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results
Values	
V.1	An ability to function effectively as a member of a technical team, a commitment to quality, timeliness, and continuous improvement
V.2	An ability to engage in self-directed continuing professional development

+Add a table for each track and exit Point (if any)



C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	1	2	2.17
	Elective	--	--	--
College Requirements	Required	21	53	57.61
	Elective	--	--	--
Program Requirements	Required	9	21	22.83
	Elective	4	12	13.05
Capstone Course/Project	Final Year	1	2	2.17
Field Experience/ Internship	COOP	1	2	2.17
Others	--	--	--	--
Total		37	92	100

+Add a table for each track (if any)

2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	000ENG	English Language – Level 0	R	--	2	College
	001ENG	English Language – Level 1	R	000 ENG	3	College
	091MATH	Mathematics –I	R	--	4	College
	011MMET	Engineering Drawing	R	--	2	College
	001CBS	Study Skills	R	--	1	College
Level 2	002ENG	English Language – Level 2	R	001 ENG	3	College
	003ENG	English Language – Level 3	R	002 ENG	3	College
	004ENG	English Language – Level 4	R	003 ENG	3	College
	092MATH	Mathematics – II	R	091 MATH	4	College
	091PHYS	General Physics	R	--	4	College
Level 3	193ENG	Technical English	R	004 ENG	3	College
	001CSC	Computer Essentials	R	--	1	College
	193MATH	Calculus	R	092 MATH	3	College
	191CHEM	General Chemistry	R	--	3	College
	112MMET	Workshop Technology	R	011 MMET	3	College
	111EPET	Electric Circuit – I	R	091 PHYS	3	College
	111 CHET	Introduction to Chemical Engineering Technology	R	--	3	Program
Level 4	194ENG	Communication Skills	R	004 ENG	3	College
	195MATH	Applied Statistics	R	092 MATH	2	College
	103SLM	Islamic Culture	R	--	2	Institution
	112 CHET	Applied Organic Chemistry	R	191 CHEM	3	Program
	121 CHET	Momentum Transfer	R	111 CHET	2	Program
	122 CHET	Chemical Engineering Thermodynamics	R	091 PHYS	3	Program
	116 CHET	Equipment Design & Drawing	R	011 MMET	1	Program
	181CHET	COOP (Summer Semester)	E	194 ENG	2	Program
	282CHET	On The Job Training (Summer Semester)	E	194 ENG	2	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 5	295ENG	Technical Report Writing	R	004 ENG	1	College
	213MMET	Industrial Safety and Environment	R	--	1	College
	231 CHET	Separation Process	R	111 CHET	3	Program
	213 CHET	Methods of Chemical Analysis	R	112 CHET	3	Program
	241CHET	Process Heat Transfer	E	122 CHET	3	Program
	242CHET	Elective Course 12	E	Depend	3	Program
	243CHET	Elective Course 13	E	Depend	3	Program
	244CHET	Elective Course 14	E	Depend	3	Program
245CHET	Elective Course 15	E	Depend	3	Program	
Level 6	203CBS	Organizational Behavior and Ethics	R	--	1	College
	232 CHET	Petroleum Refining and Testing	R	231 CHET	2	Program
	251CHET	Mass Transfer Operations	E	121 CHET	3	Program
	252 CHET	Elective Course 32	E	Depend	3	Program
	253 CHET	Elective Course 33	E	Depend	3	Program
	254 CHET	Elective Course 34	E	Depend	3	Program
	255 CHET	Elective Course 35	E	Depend	3	Program
	261CHET	Process Installation and Control	E	213 CHET	3	Program
	262 CHET	Elective Course 32	E	Depend	3	Program
	263 CHET	Elective Course 33	E	Depend	3	Program
	264 CHET	Elective Course 34	E	Depend	3	Program
	265 CHET	Elective Course 35	E	Depend	3	Program
	271CHET	Environmental Pollution	E	112 CHET	3	Program
	272 CHET	Elective Course 42	E	Depend	3	Program
	273 CHET	Elective Course 43	E	Depend	3	Program
274 CHET	Elective Course 44	E	Depend	3	Program	
275 CHET	Elective Course 45	E	Depend	3	Program	
291CHET	Chemical Engineering Technology Project	R	295 ENG	2	Program	

+Include additional levels if needed

++Add a table for each track (if any)

3. Course Specifications

Insert hyperlink for all course specifications using NCAA template

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/chetprogram>

4. Program learning Outcomes Mapping Matrix

Align the program learning outcomes with program courses, according to the following desired levels of performance (**I = Introduced P = Practiced M = Mastered**)

Course code & No.	Program Learning Outcomes						
	Knowledge	Skills				Values	
	K.1	S.1	S.2	S.3	S.4	V.1	V.2
000ENG English Language - 0 (half term)	I						
001ENG English Language - 1 (half term)	I						
002ENG English Language - 2 (half term)	I						
003ENG English Language - 3 (half term)	I	I		I		I	
004ENG English Language - 4 (half term)	P	P		P		I	
193ENG Technical English	P	P		P		I	
194ENG Communication Skills	P	P		A		A	
295ENG Technical Report Writing	A	A		A		P	
091MATH Mathematics – I	I	I				I	
092MATH Mathematics – II	P	I				I	
193MATH Calculus	P	P	P			I	
195MATH Applied Statistics	P	P	P		I	I	
091HYS General Physics	P	P	P		P	I	
001CBS Study Skills	I			I		P	P
203CBS Organizational Behaviour and Ethics	A			A		A	A
001CSC Computer Essentials	P	P	I			I	
103SLM Islamic Culture	P					P	
111EPET Electric Circuit I	P	P	P		P	I	
011MMET Engineering Drawing	I	I		I		I	
112MMET Workshop Technology	P	P	P	I	P	P	P
191CHEM General Chemistry	P	P	I		I	I	
111CHET Introduction to Chemical Engineering Technology	P	P	P		P	I	P
116CHET Equipment Design & Drawing	P	P	P	P		P	
112CHET Applied Organic Chemistry	P	P	P		P	I	
121CHET Momentum Transfer	P	P	P		P	P	

Course code & No.	Program Learning Outcomes						
	Knowledge	Skills				Values	
	K.1	S.1	S.2	S.3	S.4	V.1	V.2
122CHEM Chemical Engineering Thermodynamics	A	A	P		P	P	
213MMET Industrial Safety and Environment	A	P		A	A	A	A
231CHEM Separation Process	A	A	A		A	P	P
213CHEM Methods of Chemical Analysis	A+	A+	A+		A+	A+	P
232CHEM Petroleum Refining and Testing	A+	A+	A+	P	A+	A+	A+
241CHEM Process Heat Transfer	A+	A+	A+		P	P	P
251CHEM Mass Transfer Operations	A+	A+	A+		P	P	P
261CHEM Process Installation and Control	A+	A+	A+	A+	A+	A+	A+
271CHEM Environmental Pollution	A+	A+	A+	P	A+	A+	A+
181CHET Co-Op Training (Elective 51)	P	P	P	A	P	A+	A+
291CHET CHET Final Year Project	A+	A+	A+	A+	A+	A+	A+

*Add a table for each track (if any)

+ These items are implemented to calculated the PLO for the mentioned key courses

5. Teaching and learning strategies to achieve program learning outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

Policies	Major Strategies
1. Use of world class methods and technologies in teaching and learning	1. To oblige all faculty members to be trained and have knowledge about teaching methods in class. 2. Provide the potentials that support different teaching methods and strategies
2. Establish a teaching and learning center focused on student retention and success	1. Resource allocation and facility identification. 2. Identify and appoint outstanding leaders and faculty members
3. Foster a culture of independent thinking, and entrepreneurship among students and faculty	1. Conduct competitions for the best project 2. Perform visits for the students with mills in JEC 3. Expand student activities such as clubs, and activities that enhance leadership skills, team spirit, & entrepreneurship
4. Create academic programs in key fields of importance to Jazan region and the kingdom	1. Establish an Industrial Committee with the concerned regional stakeholders 2. Establish committees to supervise curricula 3. Finance the new academic programs with development of current programs based on the beneficiaries' proposals in Jazan

6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

Program Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching.

The National Qualification Framework (NQF) provides five learning domains. Learning outcomes are required in the first four domains and some programs may also require the Psychomotor Domain.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable learning outcomes required in each of the learning domains. Second, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. Third, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each program learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
K.	Knowledge At the end of the program, the graduates will be able to:		
K.1	An ability to demonstrate a broad and coherent body of knowledge, with depth in the underlying principles and concepts in the discipline,	Lecture, tutorial, reading, writing report on an activity, active learning, experiential learning	Assignment, exam, class activities
S.	Skills At the end of the program, the graduates will be able to:		
S.1	An ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline	Lecture, tutorial, project Based Learning (PBL) and case study	Assignments, exams, projects, case studies and Lab exam
S.2	An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline,		
S.3	An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature		
S.4	An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results		
V.	Values At the end of the program, the graduates will be able to:		
V.1	An ability to function effectively as a member of a technical team, a commitment to quality, timeliness, and continuous improvement	Task completion, active learning	Observation, log book, participation, Lab exam
V.2	An ability to engage in self-directed continuing professional development		

D. Student Admission and Support:

1. Student Admission Requirements

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/college>

A newly registered student should meet the following conditions:

- 1- The student should have Saudi nationality. In case of the non-Saudi student, their mother should carry Saudi nationality.
- 2- The students must have graduated from high school (science section).
- 3- The students should not have been graduated for more than five years before admission.
- 4- The student may not have been dismissed from the university or another university for disciplinary reasons.
- 5- Admission is allowed in the case of school grade average not less than 65%.
- 6- The students should pass any other requirements which may be set by the college.
- 7- The college has the right to transfer any student who has earned a GPA less than 3 in the first semester of the first year, in coordination with the Admission and Registration Deanship, according to the availability of the university tuition. A pledge is taken by the student regarding this action.

Students are distributed to departments after the preparatory first year, according to their requests, their GPA, and available places in the specific program.

2. Guidance and Orientation Programs for New Students

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/academic-advising>

Advising in this case addresses:

- (i) Orientation for students with an introduction to their study plan; course assessment; progression; student responsibilities; student expectations; college rules and regulations. Particular attention is paid to:
 - Student commitment to college systems
 - Regular exposure to the academic programs and related career opportunities
 - How to manage achievement of learning outcomes
- (ii) Remedial solutions for under-achievement
- (iii) Management of the student's attendance record

3. Student Counseling Services

(academic, career, psychological and social)

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/academic-advising>

First preparatory year – Instructors undertake duties of counseling with two compulsory counseling sessions held per semester.

Program (2nd year onwards) – Departmental faculty undertake counseling duties (academic advising) which consists of advice on queries of a pastoral nature; advice on study plan and progression; advice on adding/dropping courses.

Faculty office hours are posted at office locations and are included in the faculty teaching roster. The following system is in place to implement the above:

1. CAIT students in the 1st year are divided among the teachers and assigned at the beginning of the semester
 - a. Semester 1 students can seek access and be advised/counseled by native Arabic speakers (if applied).
 - b. There is one “float” advisor that students can go to as an additional resource, should they not

- feel comfortable speaking with their designated advisor due to personal, cultural, etc.
- c. The float is ideally being a native Arabic speaker and the student must still get a referral from their designated advisor for administrative and record keeping purposes.
 2. Set forms including a checklist are provided that explain BCC policies and the teacher goes over these with the student and they both sign and date.
 3. All forms are in Arabic and English.

Post- first year - Program student counseling/ advising:

1. Advisors provide advice on the completion of the study plan and progression of the student/ adding and dropping courses.
2. The students can also raise any issues and seek guidance at that time.

4.Support for Special Need Students

(low achievers, disabled, gifted and talented)

<https://www.jazanu.edu.sa/sites/default/files/2022-06/JU39-04-04-06%2804%29%20Request%20Form%20for%20a%20Student%E2%80%99s%20Exceptional%20Case.pdf>

E. Teaching and Administrative Staff

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professors	--	--	--	--	--	--
Associate Professors	Chemical Engineering	Material Science	Materials Fabrication	2	--	2
Assistant Professors	Chemical Engineering	Chemical Engineering	Process Design	1	--	1
	Chemical Engineering	Reaction Engineering	Workshop Technology & QC	1	--	1
Lecturers	Chemical Engineering	Thermal Engineering	Workshop Technology	1	--	1
Teaching Assistants	Chemical Engineering	Chemical Laboratory	Chemical Laboratory	1	--	1
Technicians and Laboratory Assistants	Chemical	Workshop	Workshop Technology	3	--	3
Administrative and Supportive Staff	Admin	--	--	5	--	5
Others (specify)	--	--	--	--	--	--

2. Professional Development

2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

For newly appointed, visiting and part-time faculties, each Head of Department will, either himself or through delegation, great and carry out orientation and induction of newly appointed faculty members. The orientation will consist of:

1. Brief introduction to the college/departmental ethos, student profile and faculty code of conduct.
2. Introduction to the program coordinator (program induction).
3. Assignment to a program mentor.
4. Introduction to the teaching and evaluation system of the department.
5. Receipt of all available departmental handbooks, bulletins and program specifications.
6. Summary of all major policies and procedures (student attendance criteria; student assessment system, Student advisory and counseling procedures).
7. Tour of the workshops/laboratories/classrooms.

Semester Preparation (all departmental faculty), All staff receive an academic briefing at the beginning of each semester from the HoDs and program coordinators, during which program (course) delivery schedules are distributed and pertinent information on the upcoming semester discussed.

2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

a. Improvement of skills in teaching and student assessment?

Teaching and Learning Unit is charged with, through the Educational Development Division, guiding professional development on a college basis. The academic departments are able to take advantage of any initiatives that arise at this level. Plans are currently in place to provide an individual professional development plan for each faculty member who can incorporate this into the performance management system that runs at college level. In addition, initiatives to develop faculty teaching and faculty's student assessment skills are placed and monitored in the college and program action plans.

b. Other professional development including knowledge of research?

The community college programs do not contemplate research functions for their staff. Nor does the college make any research demands through its performance development system. Any research undertaken by faculty members, therefore, is carried out on their own initiative.

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

Policy: JU39-05-03-01

1 **PROCEDURE TITLE:** **Textbook Evaluation and Selection**

2 **SCOPE:**

Assigned faculty members from the academic department responsible for the course can suggest and evaluate new texts and texts being used.

3 **PURPOSE:**

The purpose of this policy is to provide a framework that will allow updating of present textbooks, reference and other resource provisions. The actions highlighted in this document are initiated by faculty member/s of course related academic department through their program coordinator of the course.

4 **PROCEDURE ACTIVITIES:**

	Activity	Responsibility	Form
4.1	Fill in Textbook Evaluation and Selection form and submit it to the program coordinator.	Faculty member	JU39-05-03-01/01
4.2	If all the fields in the form are properly filled in, and the textbook evaluation and selection criteria are fulfilled, recommend it to the HoD. Otherwise, it needs a revision by the initiator.		
4.3	Make further revision and approve if: a. the evaluation and selection process has been followed b. textbook content addresses 80% of LOs of the course. Otherwise, the request will be rejected.	HoD	

4.4	Send the approved document to CDU for further action of validating and checking course syllabus alignment with a copy of selected textbook.	HoD	
4.5	Approve the request.	Head of CDU	
4.6	Order the textbook via College Manager Office.	College Manager	
4.7	Verify the textbook at the time of delivery in warehouse and approve for distribution to student.	CDU and Requester	

2. Facilities and Equipment

(Library, laboratories, medical facilities, classrooms, etc.).

Faculty and teaching staff can instigate the purchase of new texts by (see below) following the Textbook Evaluation and Selection Procedure (JU39-05-03-01). They can address needs and acquisition of other resources through the course report.

All material is subject to scrutiny by faculty members with feedback supplied via the semester course report. This document has provision for comments on the suitability of the above in relation to the achievement of student outcomes. The adequacy of textbooks, reference and other resource provisions are evaluated via the confidential Course Evaluation Survey which is conducted every semester during the test period.

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

Laboratory Emergency Policy

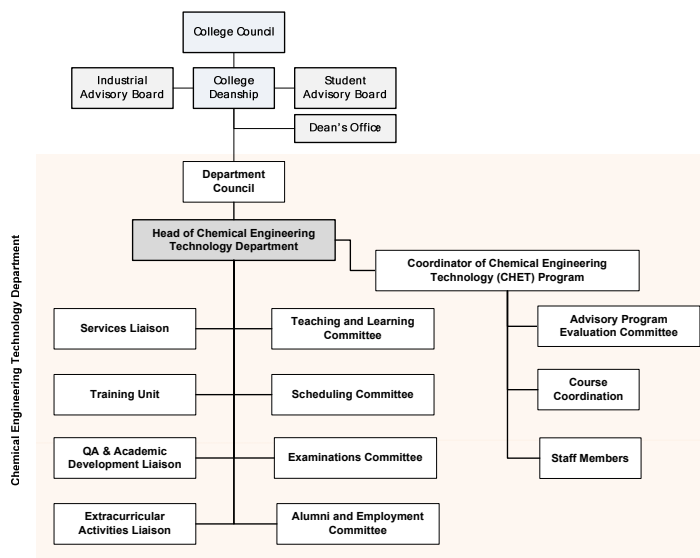
<https://www.jazanu.edu.sa/ar/colleges/college-applied-industrial-technology-cait>

G. Program Management and Regulations

1. Program Management

1.1 Program Structure

(including boards, councils, units, committees, etc.)



1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

Plans are in place to conduct a survey regarding evaluating the program by targeting independent advisors who will take up positions on the industrial advisory board. The advisory board is of recent creation and has not been met yet.

An Employer Survey is in place and has been administered in Spring 20212.

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

General about the college, admission, preparatory year, Examination, COOP, Projects, degree awarded, etc:

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/college>

Standard Operating Procedures (SOPs)

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/sops>

About Chemical Engineering Technology Department

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/chemical-engineering-technology>

About Chemical Engineering Technology Program, study plan, curriculum, etc:

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/chetprogram>

CHET Program Specification:

https://www.jazanu.edu.sa/sites/default/files/2021-10/01-chet-ps-20211_0.pdf

The college bulletin

https://www.jazanu.edu.sa/sites/default/files/2021-10/0000-cait_executive-regulations.pdf

H. Program Quality Assurance

1. Program Quality Assurance System

Provide online link to quality assurance manual

<https://www.jazanu.edu.sa/en/colleges/college-applied-industrial-technology-cait/qa-and-accreditation>

2. Program Quality Monitoring Procedures

Faculty participate in the monitoring of program quality, annual review and planning for improvement through the following mechanisms:

1. Participation in Faculty satisfaction survey
2. Production of course file
3. Production of course report
4. Participation in the Program Advisory and Evaluation Committee
5. Participation in course revamping

All staffs are asked to participate in quality initiatives and to oversee the application of processes. Program quality is driven through course reporting and through the work of the PAEC – Program Advisory and Evaluation Committee. The PAEC has been established as a conduit for company and faculty feedback on student achievement and program quality through the monitoring of the application of the study plan. Course revamping is open to any faculty member. He is able to initiate such actions through the preparation of a proposal for course revamping which is subsequently to the HOD and if deemed appropriate, forwarded to the Departmental Council. Should the Departmental Council recommend the course revamping, the proposal will be recommended to the curriculum Development Division, undergo scrutiny through the Quality Assurance and Accreditation Unit, and be submitted to the College Council. On approval of the course revamping, a copy of approved material will be distributed to the department and program concerned for implementation.

3.Arrangements to Monitor Quality of Courses Taught by other Departments.

Integrated course reporting for non-MMET taught courses will take place regularly on an annual basis via submission to the Mechanical Engineering Technology Department’s PAEC committee to ensure that these courses meet the needs of the students. In addition, CAIT improves the degree of interaction between departments through formal involvement of assigned coordinators to follow up with the course director and closely monitor details and completeness.

4.Arrangements Used to Ensure the Consistency between Main Campus and Branches(including male and female sections)

Not Applicable

5.Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships(if any).

Not Applicable

6.Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

<https://www.jazanu.edu.sa/sites/default/files/2021-11/00-assessment-plan-of-clos-plos-cait.pdf>

The mechanism by which CAIT assess its LOs and evaluate their development against courses and academic programs are accurate and powerful since it is carried out automatically by means of Excel spreadsheet. It is worth to note that assessment of CLOs is conducted every semester, however assessment of PLOs is conducted annually.

They are the statements of what each student knows, understands and is able to do on completion of a learning process. They are defining in terms of

Knowledge: The outcomes of the assimilation of information through learning. It is the body of facts, principles, theories and practices that is related to the field of study.

Skills: The outcomes of applying the knowledge and using know-how to complete tasks and solve problems. They are the cognitive or practical.

Competence: The outcomes of proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

LOs in course level and program level are all defined in terms of the above category. First, the PLOs are defined according to the Accreditation Board for Engineering and Technology (ABET) and the National Quality Framework (NQF) with two more outcomes to comprise “Knowledge” domain and enhance “Competence” domain. The Students Outcomes (SOs).

The direct assessment of PLOs is carried out using the same Excel sheet, for which PLOs assessment is carried out for a specified course. Here, the CLOs of the course or the KPIs

associated with these CLOs “attributes” are used for assessing PLOs associated to this course only. The mapping matrix between CLOs and PLOs is used for assessment process taking into consideration the Level of Learning (LoL) assigned. First the PLOs is assessed for each Assessment Tool. For the sake of clarifying the procedure, please refer to the manual published in the above mentioned link

<https://www.jazanu.edu.sa/sites/default/files/2021-11/00-assessment-plan-of-clos-plos-cait.pdf>

The PLOs assessed for each assessment tool for each graduate are summed up to provide a comprehensive assessment for PLOs for this course, it is worth noting that after summing up, a normalization to unity for PLOs is applied for better comparison and analysis.

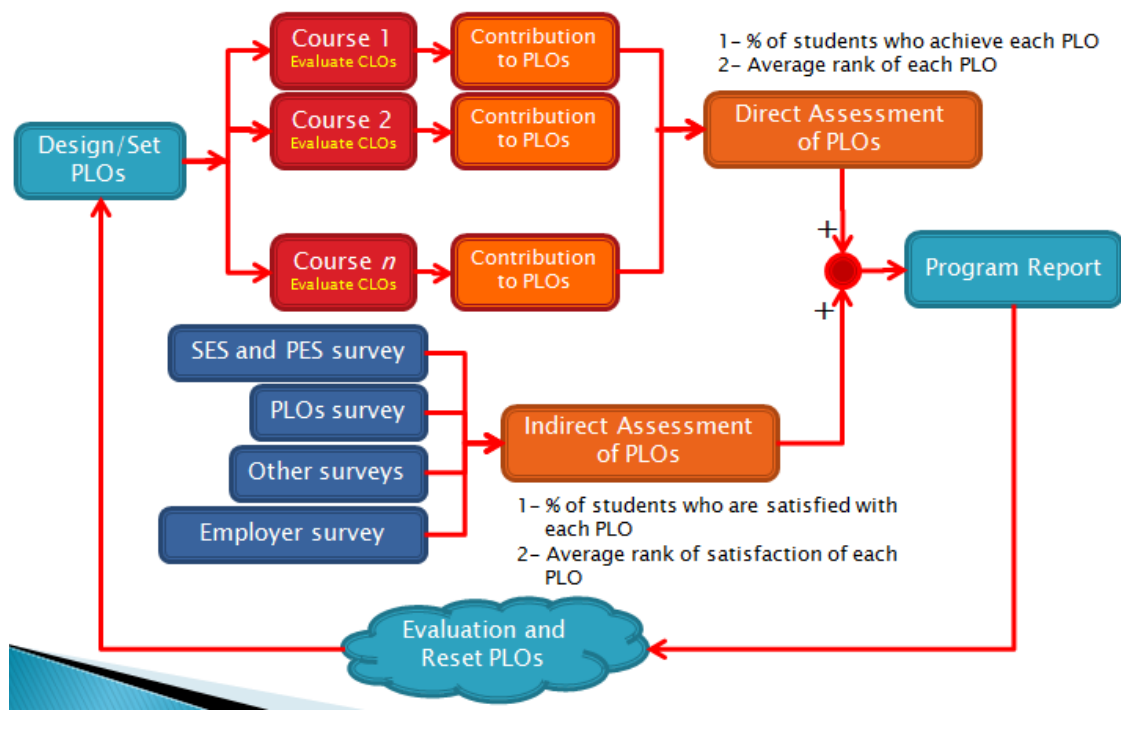
The final stage is that assembling the assessed PLOs for the key courses, i.e. the courses of the highest two or three levels. This is stage is accomplished by means of a complementary Excel spreadsheet for which the data for each graduate is fed to the sheet for assembly and get the total assessment for the PLOs for this academic program. The total assessment of PLOs for this academic program, according to the selected key courses, can then be evaluated and defined using a rubric of three levels of achievement; they are:

Satisfactory: if the % of the students who achieve 70% “C” or higher is more than 60% for each LO.

Need Improvement: if the % of the students who achieve 70% “C” or higher is less than 60% but the % of the students who achieve less than 60% “F” is less than 40% for each LO.

Unsatisfactory: if the % of the students who achieve less than 60% “F” or less is smaller than 60% for each LO.

The above steps are followed by Indirect Assessment by means of students’ PLOs survey, SES survey, and PES survey. It is worth noting that all of these steps and procedures are assembled and programmed using two Excel spreadsheets for instructor convenient and accurate assessment.



7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Program Mission	Employers	Surveys	30 days
Program Objectives	Employers	Surveys	30 days
Program Outcomes	Employers	Surveys	30 days
The Survey of Labor Market and Society Needs	Employers	Surveys	30 days
Comparison with Corresponding Programs(Similarities & Differences)	Independent reviewers	Interviews	30 days
Identification of Human Resources	Administrative staff, program leaders	Visits	30 days
Identification of Facilities and Equipment for the Program	Program leaders	Visits	30 days
Program Description	Program coordinator	Interviews	30 days
Short Description of Courses	Faculty	Interviews	30 days
Detailed Description of Courses (Including Evaluation and References)	Faculty	Interviews	30 days
Outside Arbitration for the Plan	Independent reviewers	Visits	30 days
External Evaluator Report	Independent reviewers	Interviews	30 days
Fields of Work	Employers	Visits	30 days

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify))

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

8. Program KPIs+

The period to achieve the target (3) years.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	S1.1	Average rating on how well the mission is known to teaching staff, and undergraduate students, on a five-point scale in an annual survey	3	Survey (teaching Staff and undergraduate and graduate students)	Annually
2	S2.1	Average rating on the adequacy of the Policy Handbook on a five- point scale	3	Survey (teaching Staff and final year students)	Annually
3	S3.1	Average rating of the overall quality on a five-point scale in an annual survey	3	Survey (final year students)	Annually
4	S3.2	Proportion of courses in which student evaluations were conducted during the year.	0.9	No. of courses evaluated / Total Courses	End of Semester
5	S4.1	Ratio of students to teaching staff. (Based on full time equivalents)	20/1	Total no. of students / Total no. of staff	End of semester
6	S4.2	Average rating of students on a five-point scale on overall evaluation of courses	3	Average rating on overall evaluation for the key courses	End of semester
7	S4.3	Proportion of teaching staff with verified doctoral qualifications.	20/1	Total no. of students / Total no. of PhD staff	End of semester
8	S4.4	Retention Rate; Percentage of students entering programs who successfully complete first year	60%	No. of students successfully complete first year of the program / Total no. of students enter the program	Annually
9	S4.5	Graduation Rate for Undergraduate Students: Proportion of students entering undergraduate programs who complete those programs in minimum time.	60%	No. of graduates / Total no. of students enter the program	2 years
10	S4.7	Proportion of graduates from undergraduate programs who within six months of graduation are: (a) employed (b) enrolled in further study (c) not seeking employment or further study	0.6	No. of graduates who within six months of graduation are employed, enrolled in further study, or not seeking employment or further study / Total no. of graduates	Annually
11	S5.3	Average rating on the adequacy of academic and career counselling on a five- point scale in an annual survey of final year students	3	PES of final year students	Annually
12	S6.1	Average overall rating of the adequacy of the library & media centre, including: a) Staff assistance, b) Current and up-to-date c) Copy & print facilities, d) Functionality of equipment, e) Atmosphere or climate for studying f) Availability of study sites, and g) Any other quality indicators of service on a five- point scale of an	3	Survey (teaching Staff and undergraduate and final year students)	Annually

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
		annual survey			
13	S.6.3	Average overall rating of the adequacy of the digital library, including: a) User friendly website b) Availability of the digital databases, c) Accessibility for users, d) Library skill training and e) Any other quality indicators of service on a five- point scale of an annual survey	3	Survey (teaching Staff and undergraduate and final year students)	Annually
14	S7.1	Annual expenditure on IT budget, including: a) Percentage of the total Institution, or College, or Program budget allocated for IT; b) Percentage of IT budget allocated per program for institutional or per student for programmatic; c) Percentage of IT budget allocated for software licences; d) Percentage of IT budget allocated for IT security; e) Percentage of IT budge allocated for IT maintenance.	60%	Expenditure on IT budget / Total budget	Annually
15	S7.2	Average overall rating of the adequacy of: a) IT availability, b) IT Security, c) IT Maintenance, d) IT Accessibility e) IT Support systems, f) Software and up-dates, g) Age of hardware, and h) Other viable indicators of service on a five- point scale of an annual survey	3	Survey (teaching Staff and undergraduate and final year students)	Annually
16	S7.3	22. Stakeholder evaluation of a) Websites, b) e-learning services c) Hardware and software d) Accessibility e) Learning and Teaching f) Assessment and service g) Web-based electronic data management system or electronic resources (for example: institutional website providing resource sharing, networking & relevant information, including e-learning, interactive learning & teaching between students & faculty On a five- point scale of an annual survey).	3	Survey (teaching Staff and undergraduate and final year students)	Annually

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
17	S9.1	Proportion of teaching staff leaving the institution in the past year for reasons other than age retirement	0.1	No. of teaching staff leaving the institution in the past year for reasons other than age retirement / Total no. of teaching staff	Annually
18	S9.2	Proportion of teaching staff participating in professional development activities during the past year	0.6	No. of teaching staff participating in professional development activities / Total no. of teaching staff	Annually
19	S10.1	Number of refereed publications in the previous year per full time equivalent teaching staff. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)	2/1	No. of refereed publications in the previous year / Total no. of teaching staff	Annually
20	S10.2	Number of citations in refereed journals in the previous year per full time equivalent faculty members.	5/1	No. of citations in refereed journals in the previous year / Total no. of teaching staff	Annually
21	S10.3	Proportion of full-time member of teaching staff with at least one refereed publication during the previous year.	0.6	No. of full-time teaching staff with at least one refereed publication during the previous year / Total no. of teaching staff	Annually
22	S10.4	Proportion of papers or reports presented at academic conferences during the past year per full time equivalent faculty members.	0.6	No. of papers or reports presented at academic conferences during the past year / Total no. of teaching staff	Annually
23	S10.5	Research income from external sources in the past year as a proportion of the number of full-time faculty members.	0.6	No. of research with income from external sources in the past year / Total no. of teaching staff	Annually
24	S11.1	Proportion of full-time teaching and other staff actively engaged in community service activities.	0.6	No. of full-time teaching and other staff actively engaged in community service activities / Total no. of teaching staff	Annually

+ including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	CHEMICAL ENGINEERING TECHNOLOGY
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