Tanta University

Faculty of computers and informatics

Computer science department

Bachelor Program - Credit Hours System

Program Title **Computer Science**

Program Type **Single**

Department(s) **Computer Science**

A. Program Specification

Program Title	Computer Science (B. Sc.)
Award	B. Sc. Computer Science
Parent Department	Computer Science Department
Teaching Institution	Faculty of Computers and Informatics – TU
Awarding Institution	Tanta University
Coordinator	Dr. Omnia Elbarbary
External Evaluator(s)	
QAA Benchmarking Standards	National Academic Reference Standards (NARS)
Other Reference Points	
Date of intake	Every year in September
Review Date	Internal Periodic Review, Summer 2021
Date of Approval	September, 2021

1. Aims

This Program aims to:

1. Give the graduate wide background knowledge related to the different branches of computer science.
2. Provide the graduate with knowledge in the modeling and designing computer-based system in a way that demonstrates comprehensions of the tradeoff involved in designs choices.
3. Enable graduates to apply computing knowledge and skills to the solution of real-life problem.
4. Supply the graduate with understanding the programming languages and alternative ways of thinking.
5. Enable the graduate to use computer packages to solve real problems.

2. Intended Learning outcomes (ILOs)

This program provides opportunities for graduates to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas.

A. Knowledge and Understanding:

By the end of the program a successful graduate is expected to be able to:

A1. Demonstrate basic knowledge and understanding of the core ideas of mathematics and Algorithms.

A2. Understand programming concepts for various branches of computer sciences.
A3. Use computing knowledge in solving different problems.
A4. Recognize how the hardware and software are integrated to create computer systems and distinguish between selected forms of computer hardware architecture, and operating system technology.
A5. Demonstrate knowledge and understanding of the principles of programming languages, applications, basic scientific facts, concepts, principles and techniques of related basic sciences and human sciences.
A6. Deploy appropriate theory, practices, and tools for the specification, design, implementation, and evaluation of a computer-based system.
A7. Construct and explain the meaning of complicated statements using mathematical notation and language.

B. intellectual skills:

By the end of the program a successful graduate is expected to be able to:

B1. Construct and solve abstract and mathematical models of computer and communication systems.
B2. Use the knowledge and understanding of the mathematical and Algorithms.
B3. Develop appropriate knowledge and awareness of the importance and applications of mathematical and Data Structure.
B4. Apply appropriate programming techniques to the development of software solutions.
B5. Apply the principles of effective information management, information organization, and information-retrieval skills to various information system.

C. Practical skills:

By the end of the program a successful graduate is expected to be able to:

C1. Choose and apply essential concepts, principles, and practices of computer science, in the context of well-defined scenarios, showing judgment in the selection and application of tools and techniques.
C2. Apply the concepts and methods of computer science to the solution of the real problems in professional practice.
C3. Approximation of sources of numerical errors and usage of symbolic and numerical software as a part of practical computation.

C4. Demonstrate competence in the use of programming methods in problem solving and modeling.
C5. Specify, design, implement and upgrade computer-based systems.
C6. Recognize and be guided by the social, professional, and ethical issues involved in the use of computer technology.

D. General Skills:

At the end of this program, the graduate should be able to:

D1. Use information and communication technology effectively.
D2. Identify roles and responsibilities, delegate tasks, and set clear guidelines and performance indicators.
D3. Think independently, and solve problems on scientific basis.
D4. Work in a team effectively; manage time, collaborate and communicate with others positively.
D5. Address the community linked problems with considerable attention to the community ethics and traditions.
D6. Acquire self- and life-long learning.
D7. Deal with property rights legally and ethically.
D8. Exhibit the sense of beauty and neatness.

3. Academic standards

3.A. General Attributes of the Graduates of Basic Sciences:

In addition to the general attributes of the graduate of faculties of Sciences, the graduate of the computer science program should be able to:

1 Reveal wide background knowledge related to the different branches of computer science.
2 Use such knowledge and understanding in the modeling and design of computer-based systems tradeoff involved in design choices
3 Apply computing knowledge and skills to the solution of real life problems.
4 Use computer science applications to solve real problems.
5 Understand the mathematics and reasoning and alternative ways of thinking.

3.B. Graduate Attributes:

In order to fulfill Academic Reference Standards (ARS), our students should acquire:

A. Knowledge and Understanding:

By the end of the program a successful graduate is expected to be able to:

1.1 Demonstrate basic knowledge and understanding of the core ideas of

computer sciences.

1.2 Understand programming concepts for various branches of computer science.

1.3 Use computing knowledge in solving different problems.

1.4 Recognize how the hardware and software are integrated to create computer systems and distinguish between selected forms of computer hardware architecture, and operating system technology.

1.5 Demonstrate knowledge and understanding of the principles of programming languages and application.

1.6 Deploy appropriate theory, practices, and tools for the specification, design, implementation, and evaluation of a computer-based system.

1.7 Recognize the knowledge of tools, practices and methodologies used in the specification, design, implementation and critical evaluation of computer software systems.

1.8 Define and assess criteria for measuring the extent to which a computer system is appropriate for its current deployment and future evolution.

1.9 Define the current and underlying technologies that support computer processing and inter-computer communication.

1.10 Define the principals of generating tests which investigate the functionality of computer programs and computer systems and evaluating their results.

B. intellectual skills:

By the end of the program a successful graduate is expected to be able to:

2.1 Formulate traditional and nontraditional problems, set goals towards solving them, and observe results.

2.2 Compare between (algorithms, methods, techniques...etc).

2.3 Classify (data, results, methods, techniques, algorithms.. etc.).

2.4 Solve computer science problems with pressing commercial or industrial constraints.

2.5 Apply the principles of effective information management, information organization, and information-retrieval skills to various information systems.

2.6 Analyze and evaluate a range of options in producing a solution to an identified problem

2.7 Generate an innovative design to solve a problem containing a range of commercial and industrial constraints.

2.8 Analyze problem from written descriptions; derive requirements specifications from an understanding of problems (analysis, synthesis).

2.9 Outline the concepts, principles, theories and practices underpinning computing as an academic discipline

2.10 Develop and assess criteria to measure the appropriateness of a computer system for its current deployment and future evolution, and to interpret the results thereof.

2.11 Create ideas, proposals and designs effectively using rational and reasoned

2.12 Evaluate the results of tests to investigate the functionality of computer systems.

C. Practical skills:

By the end of the program a successful graduate is expected to be able to:

3.1 Choose and apply essential concepts, principles, and practices of mathematics and computer science, in the context of well-defined scenarios, showing judgment in the selection and application of tools and techniques.

3.2 Apply the concepts and methods of computer science and mathematics to the solution of the real problems in professional practice.

3.3 Approximation of sources of numerical errors and usage of symbolic and numerical software as a part of practical computation.

3.4 Demonstrate competence in the use of programming and mathematical methods in problem solving and modeling.

3.5 Specify, design, implement and upgrade computer-based systems.

3.6 Recognize and be guided by the social, professional, and ethical issues involved in the use of computer technology.

D. General and Transferable Skills:

At the end of this program, the graduate should be able to:

4.1 Use information and communication technology effectively.

4.2 Identify roles and responsibilities and their performing manner.

4.3 Think independently, set tasks, and solve problems on scientific basis.

4.4 Work in a team effectively; manage time, collaborate and communicate with others positively.

4.5 Consider community linked problems, ethics and traditions.

4.6 Acquire self- and life-long learning.

4.7 Deal with scientific patents considering property rights.

4.8 Demonstrate an appreciation of the need to continue professional

development in recognition of the requirement for life-long learning.

4.9 Apply scientific models, systems, and tools effectively.

4. Curriculum Structure and contents:

4.A Program duration: Four Years

4.B Program structure:

4.B.1 Number of contact hours per Term:

Level – 1	First term:	Lectures	12	Lab.	8	Credit		16
	Second term:	Lectures	14	Lab.	8	Credit		18
Level – 2	First term:	Lectures	12	Lab.	10	Credit		17
	Second term:	Lectures	12	Lab.	12	Credit		18
Level – 3	First term:	Lectures	12	Lab.	12	Credit		18
	Second term:	Lectures	10	Lab.	13	Credit		18
Level – 4	First term:	Lectures	10	Lab.	13	Credit		18
	Second term:	Lectures	10	Lab.	13	Credit		18
Overall Contact hours		Lectures	92	Lab.	89	Credit		141

4.B.2 Number of contact hours: Compulsory 114 Optional 27

4.B.3 Number of contact hours of basic sciences courses: Lectures 102 Pract. 89 Credit 135

95.7%

4.B.4 Number of contact hours of courses of social

	sciences and humanities:	7	Credit 12	8.5%
4.B.5	Number of credit hours of specialized courses:	60		42.5%
4.B.6	Number of credit hours of other courses:	75		53.19%
4.B.7	Practical/field training (Summer training)	4 weeks		
4.B.8	Program levels (in credit hours system):	4		

5. Courses contributing to the Program

In order to fulfill national standards, our students should acquire in each year of full-time study within the program, students are required to study the corresponding courses in four years through 8 terms. This is achieved by providing core material in the first two years and then in the third and fourth years, after second year succeeded students can continue in the direction of computer science program or to quit to other programs like Information System (IS) or Information Technology (IT) & Software Engineering (SE). In third- and fourth-years computer science program students should be to take 39 hours from mandatory computer science program, 12 hours from computer science elective courses and 9 hours elective courses from computer science program or other programs like IS or IT or SE.

The summary of the courses of the 4-year full-time computer science program is presented in the following tables:

Level 1 semester 1

Level 1 Semester 1		Course Title	Hours		
Code	**Preq.**	**Obligatory:**	**Lec.**	**Prac.**	**Cred.**
HU111	----------	**Technical Report Writing**	2	-----	2
HU112	----------	**Human Rights and Combating Corruption**	2	-----	2
ENGL113	----------	**English Language (1)**	2	-----	2
MA111	---------- --	**Math (1)**	2	2	3
MA112	----------	**Discrete Mathematics**	2	2	3
ST121	----------	**Probability and Statistics (1)**	2	2	3
CS111	----------	**Fundamentals of Computer Science**	2	2	3
					18

Level 1 Semester 2

Level 1 Semester 2		Course Title	Hours		
Code	Preq.	Obligatory:	Lec.	Prac.	Cred.
HU114	----------	Communication Skills	2	----	2
HU121	----------	Marketing and Sales	2	----	2
HU117	----------	Comparative Politics	2	----	2
MA113	MA111	Math (2)	2	2	3
IT111	----------	Electronics	2	2	3
CS112	CS111	Structured Programming	2	2	3
IT113	----------	Fundamentals of Information Technology	2	2	3
					18

Level 2 Semester 1

Level 2	Semester 1	Course Title	Hours		
Code	Preq.	Obligatory:	Lect.	Tut.	Cred.
ENGL211	ENGL113	English Language (2)	2	----	2
MA214	MA213	Math (3)	2	2	3
CS213	CS112	Object Oriented Programming	2	2	3
CS214	CS112	Data Structures	2	2	3
SE 211	CS112	Open Source Software	2	2	3
IT212	IT111	Logic Design	2	2	3
					17

Level 2 Semester 2

Level 2 Semester 2		Course Title	Hours		
Code	**Preq.**	**Obligatory**	**Lect.**	**Tut.**	**Cred.**
ST222	ST121	Probability and Statistics (2)	2	2	3
CS251	CS112	Introduction to Software Engineering	2	2	3
IS211	CS112	Introduction to Database Systems	2	2	3
IS231	CS213	Web Technology	2	2	3
IT221	CS111	Computer network Technology	2	2	3
CS221	CS214	Algorithm Analysis and Design	2	2	3
					18

Level 3 Semester 1

Level 3 Semester 1		Course Title	Hours		
Code	Preq.	Obligatory	Lect.	Tut.	Cred.
CS341	CS214	Operating Systems	2	2	3
CS316	CS214	Advanced Data Structures	2	2	3
CS331	IT212	Computer Organization and Architecture	2	2	3
CS361	CS214	Artificial Intelligence	2	2	3
IT316	CS214	Computer Graphics	2	2	3
		Elective course 1	2	2	3
					18

Level 3 Semester 2

Level 3	Semester 2	Course Title	Hours		
Code	Preq.	Obligatory	Lect.	Tut.	Cred.
CS322	CS214	Concept of Programming Languages	2	2	3
CS342	CS341	Advanced Operating System	2	2	3
CS352	CS251	Advanced Software Engineering	2	2	3
CS371	CS341	High Performance Computing	2	2	3
IT 351	CS213 MA214	Information Theory and Data Comparison	2	2	3
		Total			15
TR301		Summer training		3	3

Level 4 Semester 1

Level 4	Semester 1	Course Title	Hours		
Code	Preq.	Obligatory:	Lect.	Tut.	Cred.
CS432	MA112	Computation Theory	2	2	3
CS462	CS213	Machine Learning	2	2	3
CS497	Student must pass 85 credit hours	Graduation project (1)		3	3
		Elective course 2	2	2	3
		Elective course 3	2	2	3
		Elective course 4	2	2	3
					18

Level 4 Semester 2

Level 4 Semester 2		Course Title	Hours		
Code	Preq.	Obligatory:	Lect.	Tut.	Cred.
CS423	CS3222	Compliers	2	2	3
CS472	CS342	Cloud Computing	2	2	3
CS498	CS497	Graduation project (2)		3	3
		Elective course 5	2	2	3
		Elective course 6	2	2	3
		Elective course 7	2	2	3
					18

Elective Courses for Computer Science Program					
		Course Title	Hours		
Code	Preq.	Obligatory:	Lect.	Tut.	Cred.
CS334	IS211	Big Data Analysis	2	2	3
CS435	CS221	Bioinformatics Systems	2	2	3
CS436	CS341	Mobile Computing	2	2	3
CS353	CS221	Software Testing andQuality Assurance	2	2	3
CS354	CS221	Software Security	2	2	3
CS455	CS221	Human ComputerInteraction	2	2	3
CS456	CS221	Software Design and Architecture	2	2	3
CS457	CS352	Selected Topics in Software Engineering	2	2	3
CS463	CS462	Natural Language Processing	2	2	3
CS464	IS231	Semantic Web and Ontology	2	2	3
CS465	MA113	Soft Computing	2	2	3
CS466	CS361	Knowledge Discovery	2	2	3
CS467	CS462	Selected Topics in Artificial Intelligence	2	2	3
CS473	CS371	Advanced High-Performance Computing	2	2	3
CS474	CS473	Selected Topics in High Performance Computing	2	2	3
CS495	CS322	Selected Topics in Computer Science (1)	2	2	3
CS322	CS496	Selected Topics in Computer Science (2)	2	2	3

Summer training

Students are required to undertake to obtain one period of at least eight approved field (industrial) experience in industry, or in appropriate laboratories or institutions during a summer vacation. The students are expected to seek the relevant training during the summer vacation between level three and level four.

6. Program admission requirements

Arrangements for admission are based on the national guidelines with no Faculty control on the number of newly enrolled students. Candidates must satisfy the general admission requirements of the University and Faculty which are one of the following:

1. General Certificate of Secondary Education (GCSE) in Mathematics or Science
2. International Baccalaureate (GCSE, American Diploma).
3. In addition, students with GCSE in Science are required to study additional course in mathematics and passed it.

7. Regulations for progression and Program completion

The Faculty has the following system to follow student's progression through the Programs in which they are enrolled

1. To progress from level one to level two or level two to level three or level three to level four, student need to pass in all course units with a maximum of fail in two.
2. Student who fails his/her final examination at the first attempt will be eligible only for a "Pass" degree following any re-set examinations.

Progression from level one to level two:

In order to progress from Level One to Level Two, a student shall normally achieve a threshold performance at part Level One. To gain a threshold performance at Level One, a student shall normally be required to pass in all course units with a maximum of fail in two

Progression from 'Level Two' to 'Level Three:

To gain a threshold performance in 'Level Two', a student shall normally be required to achieve an aggregate score determined annually by the faculty council, and to pass in all course units. In order to pass from 'Level Two' to Part three, a student shall normally be required to achieve a threshold performance at 'Level Two' and to pass in all course units with a maximum of fail in two.

To pass the Summer Training, students must achieve a non-scored

threshold training level base on submission of a formal written non-scored report from the training institution and the supervisor. Students who fail the summer training will (not) be required to transfer to the four-year Program.

To obtain the degree at the end of the 'Level Four', student must pass in all course units and achieve at least an overall of 60%.

8. Evaluation of Program intended learning outcomes

Evaluator Tool		Sample
1. Senior students	Not applied yet	
2. Alumni	Not applied yet	
3. Stakeholders(Employers)	Not applied yet	
4. External Evaluator(s)(External Examiner(s))	Not applied yet	

9. Matrix of ARS/ILOs and Computer Science Program ILOs

ARS/ILOs		Program intended learning outcomes ILOs																									
		Knowledge and Understanding							Intellectual					Practical						Transferable							
		A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6	D7	D8
Knowledge and understanding	1.1		√			√																					
	1.2	√		√			√	√																			
	1.3		√			√																					
	1.4				√			√																			
	1.5		√			√																					
	1.6	√		√				√																			
	1.7		√				√																				
	1.8					√																					
	1.9		√		√																						
	1.10	√		√			√	√																			
Intellectual skills	2.1									√			√														
	2.2								√			√															
	2.3										√		√														
	2.4								√		√	√															
	2.5								√	√																	
	2.6											√	√														
	2.7								√		√																
	2.8									√		√															
	2.9								√		√		√														
	2.10									√		√															
	2.11								√																		
	2.12										√		√														
Practical skills	3.1													√				√									
	3.2														√		√		√								
	3.3															√											
	3.4													√				√									
	3.5														√	√											
	3.6													√			√		√								
General and	4.1																			√			√				√

transferable skills	4.2																				√				√		
	4.3																					√				√	
	4.4																					√		√			√
	4.5																			√						√	
	4.6																						√		√		
	4.7																				√						√
	4.8																			√			√			√	
	4.9																			√				√			

10- Program Courses - Program ILOs Matrix (Curriculum Map)

Program Title: Computer Science (B. Sc.)

Programme Contents		Program intended learning outcomes ILOs																								
		Knowledge and Understanding							Intellectual					Practical						Transferable							
		A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6	D7	D8
Level One - Semester 1																											
HU111	Technical Report Writing					√								√					√				√				
HU112	Human Rights and Combating Corruption					√								√					√		√			√		√	
ENGL113	English Language (1)					√								√					√				√				
MA111	Math (1)	√		√		√	√	√	√		√				√	√		√		√		√					
MA112	Discrete Mathematics	√	√	√	√	√		√		√					√	√	√	√	√	√		√					
ST121	Probability and Statistics (1)	√		√				√			√				√	√				√							
CS111	Fundamental of computer science	√	√	√	√		√		√	√	√	√	√	√			√			√		√					
Level One - Semester 2																											
HU114	**Communication Skills**					√									√				√		√			√			
HU121	**Marketing and Sales**					√													√		√			√			
HU117	**Comparative Politics**					√													√					√		√	
MA113	**Math (2)**	√		√		√		√							√	√		√		√					√		
IT111	**Electronics**				√	√		√			√	√				√	√	√	√	√			√				
CS112	**Structured Programming**	√	√	√	√		√	√	√	√	√	√	√		√	√	√	√	√	√			√				
IT113	**Fundamentals of**	√			√	√	√	√	√	√	√	√	√		√		√	√	√	√		√					

	Information Technology																										
Level Two - Semester 1																											
ENGL211	**English Language (2)**					√			√			√		√							√	√		√	√	√	√
MA214	**Math (3)**		√			√		√		√				√							√			√	√		
CS213	**Object Oriented Programming**	√	√	√	√		√	√	√			√	√	√	√	√	√	√		√		√		√	√		
CS214	**Data Structures**	√	√	√	√		√	√		√	√	√	√		√		√			√	√		√				
SE 211	**Open Source Software**	√	√	√		√				√		√		√	√	√	√	√	√	√				√	√	√	√
IT212	**Logic Design**	√	√				√	√	√	√	√	√	√			√		√		√	√	√			√		
Level Two - Semester 2																											
ST222	**Probability and Statistics (2)**	√		√			√	√	√					√							√	√					
CS251	**Introduction to Software Engineering**		√	√		√	√		√	√		√		√	√	√				√				√	√	√	
IS211	**Introduction to Database Systems**		√		√	√	√				√	√				√	√			√			√		√		
IS231	**Web Technology**			√	√				√		√	√	√	√			√	√	√	√			√			√	√
IT221	**Computer network Technology**			√	√		√					√	√					√	√	√			√			√	
CS221	**Algorithm Analysis and Design**	√	√	√			√	√		√	√				√	√				√	√	√		√	√		
Level Three - Semester 1																											
CS341	**Operating Systems**		√		√		√				√			√	√	√		√	√	√	√	√	√			√	
CS316	**Advanced Data Structures**	√		√		√	√	√	√	√	√		√		√		√			√		√	√				

CS331	**Computer Organization and Architecture**		√	√	√	√		√	√		√	√		√		√		√		√	√		√				
CS361	**Artificial Intelligence**	√	√	√		√	√	√	√	√	√		√		√		√			√		√		√	√		
IT316	**Computer Graphics**		√	√		√	√	√	√			√		√	√	√		√	√	√						√	√
Level Three - Semester 2																											
CS322	**Concept of Programming Languages**	√		√		√	√				√	√			√ √					√				√	√		
CS342	**Advanced Operating System**	√	√					√	√		√	√			√					√	√						
CS352	**Advanced Software Engineering**	√			√		√				√	√					√			√				√	√	√	√
CS371	**High Performance Computing**						√					√	√	√						√							
IT 351	**Information Theory and Data Comparison**						√			√		√	√	√						√							
تد 301	**Summer training**		√			√	√					√			√	√				√				√	√	√	√
Level Four - Semester 1																											
CS432	**Computation Theory**				√		√					√	√	√				√		√	√						
CS462	**Machine Learning**	√	√				√				√	√		√						√			√				
CS497	**Graduation project (1)**	√		√			√						√							√							
Level Four - Semester 2																											
CS423	**Compliers**		√	√						√	√		√	√						√			√				
CS472	**Cloud**			√		√	√						√		√	√				√		√					

	Computing																									
CS498	**Graduation project (2)**	√			√		√			√			√	√					√	√			√				
Elective Courses(CS)																											
CS334	**Big Data Analysis**						√			√		√	√	√						√							
CS435	**Bioinformatics Systems**	√		√	√			√			√		√	√		√				√				√			
CS436	**Mobile Computing**			√		√	√						√		√	√				√		√					
CS353	**Software Testing and Quality Assurance**	√			√		√				√	√					√			√				√	√	√	√
CS354	**Software Security**		√	√	√	√		√	√		√	√		√		√		√		√	√		√				
CS455	**Human Computer Interaction**	√		√	√			√			√		√	√		√				√				√			
CS456	**Software Design and Architecture**	√			√		√				√	√					√			√				√	√	√	√
CS457	**Selected Topics in Software Engineering**		√	√		√	√		√	√		√		√	√	√				√				√	√	√	
CS463	**Natural Language Processing**	√		√	√		√				√	√				√	√			√				√	√	√	√
CS464	**Semantic Web and Ontology**		√	√	√	√		√	√		√	√		√		√		√		√	√		√				
CS465	**Soft Computing**	√	√	√		√				√		√		√	√	√	√	√	√	√				√	√	√	√
CS466	**Knowledge Discovery**		√	√	√	√		√	√		√	√		√		√		√		√	√		√				
CS467	**Selected Topics in Artificial Intelligence**	√		√	√		√				√	√				√	√			√				√	√	√	√
CS473	**Advanced High-Performance**	√	√	√		√				√		√		√	√	√	√	√	√	√				√	√	√	√

	Computing																										
CS474	**Selected Topics in High Performance Computing**		√			√		√	√	√						√			√			√		√	√	√	
CS495	**Selected Topics in Computer Science (1)**		√			√		√	√	√						√			√			√		√	√	√	
CS322	**Selected Topics in Computer Science (2)**		√			√		√	√	√						√			√			√		√	√	√	

We certify that all of the information required to deliver this Program is contained in the above specification and will be implemented. All course specifications for this Program are in place.		
Name	**Signature**	**Date**
Program Coordinator: Dr. Omnia El Barbary **د / أمنية البربري**		9 -2021
Head of Quality Assurance Unit: Dr. Omnia El Barbary **د / أمنية البربري**		9 -2021
Dean of the Faculty: Prof. Nancy El Hefnawy **أ. د. نانسي الحفناوي**		9 -2021