Mathematics Program specification

Faculty of Science

South Valley University

2023- 2024 AD

* The specification was approved at the Department Council session No. () dated /9/2023

* The specification was approved at the College Council session No. (31) dated 21/9 /2023

Head of the Department Council — Dean of the College

Prof. Dr. Mouse Khalifa Ahmed — Prof. Dr. Khaled Ebnalwaleed

Mathematics Program specification (2023-2024)

South Valley University
Faculty of Science
The program of Mathematics

1- General Data

Program Title: Mathematics
Program Type: ☑ **Single** ♦ **Double** ♦ **Multiple**
Department offering the Program: Department of Mathematics
Date of Program bylaw approval: 1/9/2021 with the Ministerial decision no. 4051
Date of Program Specification approval: / 9/ 2023

2- Professional Data

Program general Aims:

For students undertaking this Program, they will be able to:

1.1- Learn about the role of basic sciences in community development.
1.2 - Developing scientific curricula that meet the needs of society, taking into account economic requirements Environmental, social, moral, and safety.
1.3 - Using scientific facts and theories to analyze and interpret practical data.
1.4- Collecting data using appropriate shapes and technologies.
1.5 - Data analysis using appropriate shapes and techniques
1.6- Providing data using appropriate shapes and technologies
1.7- Assuming concepts and choosing appropriate solutions to solve problems scientifically.
1.8 - The effective application of information technology related to the field.
1.9- Effective participation in the multidisciplinary teamwork
1.10- Self-learning and participating effectively in research activities.
1.11- Dealing with scientific data in Arabic, English, or other languages.
1.12- Understanding different patterns and giving a brief summary of these patterns.
1.13- Learn about different patterns and give a brief summary of these patterns.
1.14- Description of different patterns and giving a brief summary of these patterns.
1.15- Extracting conclusions around the real world using mathematical concepts.
1.16- Search for real data that can be made about mathematical organisms.
1.17- Applying technologies, tools, and formulas to understand the subject features.
1.18- Knowing different types of thinking and methods of proof.
1.19- Using different types of thinking and methods of proof.
1.20- Create a model and explain its mathematical ideas.
1.21- Use a representation of a model and explain its mathematical ideas.
1.22- Knowing and understanding how to link mathematical ideas and build them on each other.
1.23- Flexibility, ability to adapt, decision-making, and work under contradictory conditions, as well as show aesthetic sense

3- Program Competencies (ARS)

Level (A) Knowledge and Understanding

On completing this Program, students will be able to:

A1- Know the basic scientific facts associated with each other, concepts, principles, and techniques.
A2- Remind of relevant theories and their applications.
A 3- Describe the operations and mechanisms that support the structure and function of some specific topics.
A4- Remind related terms, naming, and classification systems.
A5- Explain theories and methods that are applied to explain and analyze the data related to the program.
A6- Mention the relationship between topics under study and the environment.
A7- Know the numerical mathematics and the various methods used by digital information.
A 8- Recognize abstract algebraic structures and their role in solving problems expressed symbolically, as well as their role in developing mathematical theories and techniques.
A 9- Describe mathematical methods and techniques that deal with differential equations and their applications.
A10- Use multiple geometric concepts, and the processes to measure the characteristics of things.
A11- Mention the concept of the function and its role in mathematical analysis.
A12- Recognize intermittent mathematics, algorithms, and the possibility of linking them to solve problems of a limited nature and multiple categories without their account directly.
A13- Describe the probability and statistical models to form conclusions on the situation in the real world.
A14- Know models and symbolic representation of real problems.
A15- Clarify the deductive nature of mathematics, and the role of definitions, axioms, and theories to identify and build proofs correctly.
A 16- Explain other mathematical trend theories and applications, applied mathematics, mathematical statistics, or computer science.

Level (B) Intellectual Skills

On completing this Program, students will be able to:

B 1- A distinction between theories related to topics and evaluating their concepts and principles.
B2- analyzes the quantitative and how scientific information.
B 3- Establishing quantitative and qualitative scientific information.
B 4- Explain the quantitative and qualitative scientific information.
B5- develops patterns of arguments and proofs according to theories and scientific concepts.
B6- Assumes and concludes mechanisms and procedures to deal with scientific problems.
B7- creates multiple relationships and integrated information to confirm and clarify scientific assumptions.
B8- Formulating mathematical ideas and procedures using appropriate sporting vocabulary and observations.
B9- builds symbolic forms of the problem by choosing real models.
B10- Develop models to make expectations and decisions enlightened.
B11- Use models to make expectations and decisions enlightened.

B12- Understands mathematical objects and how to compare and convert between them.
B 13- represents mathematical problems.
B 14- strives for mathematical problems.
B 15- Explains mathematical problems.
B 16- It connects mathematics branches with mathematics and other disciplines.
B 17- It uses appropriate operations in applied mathematical studies.
B 18- Criticism of the health of sports proofs and the reasonable extent of results.

Level (C) Practical and Professional Skills

On completing this Program, students will be able to:

c1 - Places the inferred data.
c2 - Designs the inferred data.
c3 - A report on the inferred data is presented, using appropriate techniques and considering scientific guidelines.
c4- Apply techniques and tools to take into account the adoption of scientific ethics.
c5- It solves problems using a set of shapes and methods.
c6- Defines and criticizes the various methods used in addressing an issue in the relevant subject.
c7- Apply sports thinking techniques to build convincing sports proofs.
c8- It develops guessing and extracting appropriate conclusions and tests these guesses.
c9- Determines the required mathematical information and other technical information independently.
c10. It is used technology to enhance thinking and mathematical understanding.
c11- The independent non-intuitive excavation takes place in mathematics.
c12- He develops his abilities to use mathematics.
c13- It enhances cohesion and confidence in its abilities to use mathematics

Level (D) General and Transferable Skills

On completing this Program, students will be able to:

D1 - Using modern software efficiently to solve sports problems.
D2- Determining roles and responsibilities as well as the appropriate method of implementing them.
D3- Thinking of independence, distribution of professions, and solving problems on scientific foundations.
D4 collective work and time management effectively, cooperation, and positive communication with others.
D5 - Taking into consideration societal problems, ethics, and public leadership.
D6- Acquire the skill of self-learning and long-term learning.
D7 Apply and use scientific models, systems, and tools positively.
D8 Deal with patents considering intellectual property rights.
D9 Deal with decency and show aesthetic sense.

4- Academic Standards for Program

Reference Academic Standards (ARS) for Mathematics, which were approved in the College first Council on 21/8/2019."

5- Reference Standards for Program

National Academic Reference Standards for Basic Sciences (Jan. 2009)
National Academic Reference Standards for Biological Sciences sector (Jan. 2009)

6- Curriculum Structure and Contents

a- Program duration: 136 credit hours/ four levels.

b- Curriculum Structure:

…….. Hours	**Lectures**	…….. Hours	**Labs**	…….. Hours	**Sum**
…….. Hours	**Compulsory**	…….. Hours	**Additional**	…….. Hours	**Optional**

c- Curriculum Contents:

Course type	**Credit hours**	**Percentage %**	**Reference percentage %**
Basic sciences courses	34	25	27 -29
Social sciences and humanities courses	8	5.882352941	5-7
Other sciences courses (Computer …. etc)	8	5.882352941	5-7
Specialized courses	72	52.94117647	48-52
Project	2	1.470588235	1-3
/Field Training courses Practical	2	1.470588235	1-3
Supplementary courses	10	7.352941176	7-9
Total	136	100	

d- Program levels:

Level 1: **must pass 36 Credit hours:**					
18 Hours	**Compulsory**	…….. Hours	**Additional**	18 Hours	**Optional**

Level 2: **must pass 34 Credit hours:**					
18 Hours	**Compulsory**	…….. Hours	**Additional**	16 Hours	**Optional**

Level 3: **must pass 34 Credit hours:**					
18 Hours	**Compulsory**	…….. Hours	**Additional**	16 Hours	**Optional**

Level 4: **must pass 32 Credit hours:**					
16 Hours	**Compulsory**	…….. Hours	**Additional**	16 Hours	**Optional**

7- Program Courses

First Level (Freshman) - Courses of Physical Science

Semester	Course code	Course name	Prerequisites	Hours			
				Theoretical	Practical	Exercises	Credit Hours
Compulsory Courses (11 Credit Hours)							
First	Math 111	Pure Mathematics (I)	-	2	-	2	2
	Math 121	Applied Mathematics (I)	-	2	-	2	2
	Chm101	General chemistry (I)	-	2	2	-	3
	Phy101	General Physics (I)	-	2	3	-	3
	Bot 101	General botany	-	2	-	-	2
	Com101	Computer fundamentals (I)	-	1	2	-	2
	Uni 107	Human rights	-	2	-	-	2
	Uni 109	Information technology	-	2	-	-	2
Total							18
Second	Math112	Pure Mathematics (II)	-	2	-	2	2
	Math122	Applied Mathematics (II)	-	2	-	2	2
	Chm 102	General chemistry (II)	Chm101	2	3	-	3
	Phy102	General Physics (II)	Phyl01	2	3	-	3
	Zoo 116	General Zoology	-	1	-	-	3
	Com 102	Computer fundamentals (II)	-	2	1	-	2
	Uni 108	English for science	-	2	-	-	2
Total							16
Total for both semesters							34

Second Level (Sophomore) - Courses of Math. Program

Semester	Course code	Course name	Prerequisites	Hours			
				Theoretical	Practical	Exercises	Credit Hours
Compulsory Courses (11 Credit Hours)							
First	Math 211	Advanced Calculus (I)	Math 112	1	-	2	2
	Math 213	Ordinary Differential Equations (I)	Math 112	2	-	2	3
	Math 215	Solid Analytic Geometry	Math 112	2	-	2	3
	Math 221	Applied Mathematics (III)	Math 122	1	-	2	2
	Math 223	Dynamics of a Particle	Math 122	1	-	2	2
	Optional courses (4 Credit Hours) (2 Credit Hours from free courses and 2 Credit Hours from Univ)						
	Phy 205	Thermodynamics	Phy 101	1	2	-	2
	Com 201	Programming Language (I)	Com 101	1	2	-	2
	Uni 209	University Requirement	-	2	-	2	2
Total				16	-	2	18
	Compulsory Courses (12 Credit Hours)						
Second	Math 212	Pure Mathematics (II)	-	2	-	2	2
	Math 214	Applied Mathematics (II)	-	2	-	2	2
	Math 216	General chemistry (II)	Chm101	2	3	-	3
	Math 222	General Physics (II)	Phyl01	2	3	-	3
	Math 232	General Zoology	-	1	-	-	3
	Optional courses (6 Credit Hours) (4 Credit Hours from free courses and 2 Credit Hours from Univ)						
	Com 202	Computer applications in mathematics	Com 102	1	2	-	2
	Phy 204	Physics of Waves and Vibrations	Phy 102	2	-	-	2
	Com 204	Programming Language (2)	Com 201	2	1		2
	Uni 210	University Requirement	-	2	-		2
Total							18
Total for both semesters							36

Third Level (Junior) - Courses of Math Program

Semester	Course code	Course name	Prerequisites	Hours			
				Theoretical	Practical	Exercises	Credit Hours
Compulsory Courses (10 Credit Hours)							
First	Math 301	Real Analysis	Math 212	2	-	-	2
	Math 303	Group Theory	Math 112	2	-	-	2
	Math 305	Numerical Analysis (I)	Math 212	2	-	-	2
	Math 321	Continuum Mechanics	Math 222	2	-	-	2
	Math 323	Quantum Mechanics (I)	Math 221	2	-	-	2
	Optional courses (6 Credit Hours)						
	Math 307	Special functions	Math 112	2	-	-	2
	Math 309	Discrete Mathematics	Math 112	2	-	-	2
	Math 311	Integral equations (I)	Math 214	2	-	-	2
	Math 313	Dynamical systems	Math 214	2	-	-	2
	Math 325	Mathematical Methods	Math 214	2	-	-	2
Total							16
	Compulsory Courses (12 Credit Hours)						
Second	Math 302	Theory of Rings and Fields	Math 303	2	-	-	2
	Math 304	Partial Differential Equations (I)	Math 214	2	-	-	2
	Math 322	Analytical Mechanics	Math 221	2	-	-	2
	Math 324	Electromagnetic fields and Relativity (1)	Math 323	2	-	-	2
	Math 332	Mathematical Statistics	Math 232	2	-	-	2
	Optional courses (8 Credit Hours)						
	Math 306	Integral equations (2)	Math 311	2	-	-	2
	Math 308	Operation Research	Math 305	2	-	-	2
	Math 310	Numerical Analysis (2)	Math 305	2	-	-	2
	Math 312	Number Theory	Math 112	2	-	-	2
	Math 326	Electrostatics	Math 321	2	-	-	2
	Math 328	Computational Mechanics	Math 221	2	-	-	2
Total							18
Total for both semesters							34

Fourth Level (Senior) - Courses of Math. Program

Semester	Course code	Course name	Prerequisites	Hours			
				Theoretical	Practical	Exercises	Credit Hours
Compulsory Courses (8 Credit Hours)							
First	Math 401	Complex Analysis (I)	Math 301	2	-	-	2
	Math 403	Topology (I)	Math 112	2	-	-	2
	Math 421	Statistical Mechanics	Math 332	2	-	-	2
	Math 423	Fluid Dynamics(I)	Math 321	2	-	-	2
	Math 400	Graduation Project		3			
	Math 411	Field Training		3	40% Report - 40% Discussion		
	Optional courses (6 Credit Hours)						
	Math 405	Introduction to Algebra and Logic	Math 303	2	-	-	2
	Math 407	Partial differential equations (2)	Math 304	2	-	-	2
	Math 409	Fractional Calculus	Math 212	2	-	-	2
	Math 425	Theory of Elasticity	Math 321	2	-	-	2
	Math 427	Biomathematics	Math 304	2	-	-	2
Total							16
	Compulsory Courses (12 Credit Hours)						
Second	Math 402	Functional Analysis	Math 301	2	-	-	2
	Math 404	Differential geometry	Math 212	2	-	-	2
	Math 422	Quantum Mechanics (2)	Math 323	2	-	-	2
	Math 424	Mathematical Modelling	Math 304	2	-	-	2
	Math 400	Graduation Project		3	20% Report - 20% Discussion		
	Optional courses (8 Credit Hours)						
	Math 406	Topology (2)	Math 403	2	-	-	2
	Math 408	Complex Analysis (2)	Math 401	2	-	-	2
	Math 410	Measure theory	Math 112	2	-	-	2
	Math 412	Introduction in Lie Algebras	Math 303	2	-	-	2
	Math 414	Computational Geometry	Math 215	2	-	-	2
	Math 426	Fluid Dynamics (2)	Math 423	2	-	-	2
	Math 428	Electromagnetic fields and Relativity (2)	Math 324	2	-	-	2
Total							16
Total for both semesters							32

قنا – جامعة جنوب الوادي- المبنى الإداري القديم – الدور الثالث
هاتف مباشر ٠٩٦٣٢٢٦٥٩٠ - هاتف داخلي ١٥٣٢- فاكس ٠٩٦٣٢٢٤٥٤٢ - موبايل: ٠١٠٠٧٦٣٣٧٨٥
E-Mail: QAAC@svu.edu.eg -**Website**: http://www.svu.edu.eg/specialunits/qaap/index.htm

8- Contents of Courses

Look at Courses specifications

9- Program Admission requirements

For the Program Admission student must:

1. Students are required to be accepted into the college to have a certificate of passing the general secondary school examination in the Science Division, the Mathematics Division, or the Scientific Division if they are combined, or the equivalent. Admission is through the coordination office according to the college's needs each year.

2. The student passes a medical examination that confirms his fitness to study at the college and that he is free of diseases.

متطلبات الالتحاق بالبرنامج: (كما وردت بنص اللائحة)

لالتحاق الطلاب بالبرنامج يجب أن تتوفر الشروط الآتية :

1-الحصول على الثانوية العامة شعبة العلوم او الشعبة العلمية المدمجة او ما يعادل ذلك. ويكون القبول عن طريق مكتب التنسيق طبقا لاحتياجات الكلية كل عام.

2-اجتياز الطالب للكشف الطبي الذي يؤكد لياقته للدراسة بالكلية وخلوه من الأمراض.

10- Regulations for Progression and Program completion

For the Program Admission student must:

To fulfil the graduation requirements necessary to obtain a Bachelor of Science degree in this academic program "double major", the student must successfully pass 136 credit hours of academic courses in accordance with the recommendations of the unified regulations issued by the Basic Sciences Sector Committee.

القواعد المنظمة لاستكمال البرنامج: (كما وردت بنص اللائحة)

لاستكمال الطالب للبرنامج يجب على الطالب ان يجتاز بنجاح 136*ساعة معتمده من المقررات الدراسية طبقا لتوصيات اللائحة الموحدة الصادرة من لجنه قطاع العلوم الأساسية موزعه كالتالي:*

1-متطلبات جامعه 8ساعات معتمده

2-متطلبات الكلية وهي عباره عن 28ساعة معتمده تشمل مقررات علوم اساسيه مساعده او مسانده لفهم التخصص تشارك في تقديمها كل اقسام الكلية.

3- 44 ساعة معتمده في كل فرع من فروع التخصص (44لتخصص الميكروبيولوجي و 44لتخصص الكيمياء.)

4- 12ساعة معتمده تشمل 6ساعات اختيار حر من خارج التخصص و 3ساعات تدريب ميداني و 3ساعات مشروع تخرج بالمستوى الرابع .

طرق وقواعد تقييم الملتحقين بالبرنامج:

يتم تقييم الطالب بناء على العناصر التالية:

1) التقييم المستمر ويشمل الاختبارات القصيرة الشفهية والتحريرية والتطبيقية والمقالات والبحوث والرحلات العلمية والحقلية
2) اختبار منتصف الفصل ويعقد خلال الأسبوع الثامن من الفصل الدراسي ولمدة زمنية يحددها أستاذ المقرر ولا تزيد عن نصف زمن الساعات النظرية لهذا المقرر.
3) الاختبار العملي النهائي ويعقد في اخر جلسة عملية.
4) الامتحان التحريري النهائي ويعقد في الأسبوعين الاخيرين من الفصل الدراسي.
5) الزمن المخصص للامتحان التحريري النهائي لكل مقرر يساوي عدد الساعات النظرية المعتمدة وبحد أقصى ساعتين.
6) إذا اشتمل المقرر على دراسة نظرية ودراسة عملية فلابد ان يتضمن اختبار منتصف الفصل والاختبار النهائي امتحانات نظرية عملية.

عناصر تقييم الطالب في المقررات

1) بالنسبة للمقال المرجعي او مشروع التخرج بالمستوي الأخير والمخصص له 3ساعات معتمدة توزع درجاته بواقع 60%علي جودة المقال او تقرير المشروع و 20%للمناقشة الشفهية و 20%للمتابعة الدورية للمشرف.
2) بالنسبة للتدريب الميداني يخصص له 3ساعات معتمدة توزع درجاته بواقع 40%غلي جودة تقرير الطالب و 40% لتقرير مشرف التدريب و 20%للمناقشة. وتشكل لجنة لمناقشة الطالب تتكون من مشرف الطالب من القسم واثنان آخران من اعضاء هيئة التدريس بالقسم.
3) تتم الامتحانات الشفهية والتحريرية بواسطة لجنة من اثنين او ثلاثة من أعضاء هيئة التدريس من بينهم القائم على تدريس المقرر ويعتبر الطالب الغائب في الامتحان العملي النهائي او الامتحان التحريري النهائي غائبا في المقرر ويعتبر الطالب الحاصل علي صفر الى اقل من 60% من درجة الامتحان النهائي راسبا في المقرر.

فيما يلي عرض لبعض نصوص اللائحة التي تخص تقييم الملتحقين بالبرنامج:

مادة (17) : عناصر التقييم

يتم تقييم الطالب بناء على العناصر التالية :

1) التقييم المستمر ويشمل الاختبارات القصيرة الشفهية و التحريرية و التطبيقية و المقالات والبحوث و الرحلات العلمية و الحقلية
2) اختبار منتصف الفصل و يعقد خلال الأسبوع الثامن من الفصل الدراسي و لمدة زمنية يحددها أستاذ المقرر و لا تزيد عن نصف زمن الساعات النظرية لهذا المقرر.
3) الاختبار العملي النهائي و يعقد في اخر جلسة عملية.
4) الامتحان التحريري النهائي و يعقد في الأسبوعين الاخيرين من الفصل الدراسي.
5) الزمن المخصص للامتحان التحريري النهائي لكل مقرر يساوي عدد الساعات النظرية المعتمدة و بحد اقصي ساعتين.
6) اذا اشتمل المقرر علي دراسة نظرية و دراسة عملية فلابد ان يتضمن اختبار منصف الفصل و الاختبار النهائي امتحانات نظرية عملية.

مادة (18) : قواعد توزيع درجات التقييم

١- يتم تقييم امتحان كل مقرر من 100 درجة بدون أي كسور و يتم تقييم الطالب في المقررات النظرية و العملية بناء على العناصر الواردة في الجدول التالي

جدول(8) :- عناصرتقيم الطالب في المقررات

نوع الامتحان	المقرر نظري وعملي	المقرر نظري فقط	المقرر عملى فقط
امتحان نظري نهائي	%40	%50	-
امتحان عملي نهائي	%20	-	20 %
امتحان شفوي نهائي	%10	%10	10 %
امتحان منتصف الفصل	%10	%20	-
تقييم مستمر(اختبارات دورية و تمارين ....الخ)	%20	%20	70 %
مجموع درجات الامتحان	100	100	100

1- يتم حساب نقاط المقرر والرموز المقابلة للدرجات الحاصل عليها في كل مقرر من الجدول التالي.

2- عند حساب معدلات الطالب التراكمية يعتد بالكسور العشرية لرقمين فقط بعد الفاصلة العشرية. و تسجل المعدلات و تحفظ لرقمين عشريين فقط. و عند حساب المعدل التراكمي للطالب عند التخرج يظهر أيضا لرقمين عشريين.
3- عند قبول العذر عن عدم دخول الامتحان النهائي لمقرر ما بموافقة مجلس الكلية يحتسب المقرر غير مكتمل و يوضع للطالب تقدير I)) مع الاحتفاظ بدرجة اعمال السنة و يؤدي الطالب الاختبار النهائي فقط في بداية الفصل التالي ثم يوضع له التقدير النهائي بناء علي مجموع درجات اعمال السنة و الامتحان النهائي. و في حالة عدم دخول الطالب الامتحان في خلال الشهر الأول من الفصل الدراسي التالي يعتبر راسب بتقدير (F).
4- المقررات ذات الطبيعة الخاصة التي تستلزم فترة زمنية أطول من فصل دراسي واحد تؤجل تقديراتها لمدة لا تتجاوز عن فصل دراسي تالي للفصل الدراسي الذي سجلت فيه و يرصد في سجل الطالب (مستمر) و عند اجتياز المقرر تعطي للطالب الدرجة المستحقة.
5- الطالب الذي يرسب في أي مقرر اجباري عليه إعادة دراسة تلك المقرر و الامتحان فيه و في حالة رسوبه في مقرر اختياري فعليه إعادة دراسة تلك المقرر او اختيار مقرر اخر بديل له لاستكمال متطلبات التخرج.

جامعة جنوب الوادي - كلية العلوم
South Valley University, Faculty of Science

جدول (9) :تحويل الدرجات الي نقاط وتقديرات ورموزها

التقدير	الرمز		عدد النقاط	الدرجة
ممتاز	A+	أ+	4.000	100> -90
ممتاز	A	أ	3.667	90 >-85
جيد جدا	B+	ب+	3.333	85 >-80
جيد جدا	B	ب	3.000	80>-75
جيد	C+	ج+	2.667	75 >-70
جيد	C	ج	2.333	70>-65
مقبول	D	د	2.000	65> -60
راسب	F	ر	0.000	60 >- 0
مؤجل	P	م ج	0.000	60 >- 0
غير مكتمل	Inc	غ م	0.000	60 >- 0
محروم	DN	م	0.000	60 >- 0
منسحب	W	م ن	0.000	60 >- 0
ناجح حضور	AuP	ن ح	------	100 >- 60
راسب حضور	AuF	ر ح	------	60 >- 0

11- for Progression and Program completion

D. General skills									C. Practical and Professional skills												B. Intellectual skills																		A. Knowledge & understanding																	Teaching, Learning and Assessment Strategy and/or methods	
D9	D8	D7	D6	D5	D4	D3	D2	D1	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1	B18	B17	B16	B15	B14	B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1		
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*			*	*	Lecture	1
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	Practical	2
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					*	*	Research Learning	3
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Discussion groups	4
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Self-educational Learning	5
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	E-Learning	6
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*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	Simulation Laboratories	8
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Final exams	9
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*		*	*		*	Practical/Lab exams	10
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Oral exams	11
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Mid-term Exam	12
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*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	In-class Questions	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Quizzes	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*				Take Home Exam	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*		Project assignments	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	Scientific Research and Essay Discussion	14

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هاتف مباشر ٠٩٦٣٢٢٦٥٩٠ - هاتف داخلي ١٥٣٢- فاكس ٠٩٦٣٢٢٤٥٤٢ - موبايل: ٠١٠٠٧٦٣٣٧٨٥

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12. Program Evaluation

Evaluator	Methods	Sample
Program students	Printed and/or electronic questionnaires	30-40 % of program students
Program graduates	Printed and/or electronic questionnaires	30-40 % of program graduates
Stakeholders	- Printed and/or electronic questionnaires - Focus group discussion - Poll	
Staff members of the scientific department(s)- South Valley University.	- Printed and/or electronic questionnaires - Poll	30-40 % of staff members
Staff members of Mathematics from Egypyian Universities (External Reviewers)	- Focus group discussion - Review and reports.	
Staff members of Mathematics Deptment, SVU (Internal Reviewers)	- Focus group discussion - Review and reports.	

Program Coordinator/Director **Head of Department Council** **Dean of the College**

Prof. Dr. ..... **Prof. Dr. .....** **Prof. Dr. .....**