



SJCJC



(Math & Science)

DEPARTMENT

INFORMATION SESSION 2024



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OUR TEAM



Mrs. Darlene Peters, M.Ed.
Head of the Math & Science Department,
Math & Physics Lecturer

SJCJC Math Lecturers



Ms. Irma Briceño,
M.Ed.



Mr. Osvaldo Cantun,
B. Sc.



Mr. Jason (Po-wei) Hsu,
M. Ed.



Mr. Darsi Salazar,
B. Sc.



Mr. Orrin Castillo,
B.Ed.

Math & Physics

OUR TEAM



Mrs. Darlene Peters, M.Ed.
Head of the Math & Science Department,
Math & Physics Lecturer

Biology & Chemistry Lecturers



Ms. Liany Ayuso,
M. Sc.



Ms. Lucero Cob,
M. Ed.



Mr. Kolbe Molina,
B. Sc.



Ms. Geraldine Godoy,
M. Sc.



Mrs. Nerissa Guerra,
M. Sc.



Lab
Assistant

Mr. Rasheed
Gardiner

Department Mission Statement

The Math & Science Department is a student-oriented department that introduces the students to the applications of principles in Physics, Chemistry, Biology, Mathematics, and Environmental Science.

The mission of the Department is to present science as a rational and systematic observation, identification, description, experimental investigation, and theoretical explanation of natural phenomena despite the program enrolled in.

As a department dedicated to achieving excellence, we stress the importance of critical thinking, logical reasoning, and mathematical manipulations.

Students are guided in developing their ability to ask and answer questions, and, enhance their current knowledge and technical skills in scientific inquiry approach, so as to design and execute scientific investigations and apparatuses. The faculty challenges the student to view science as an interdisciplinary study applicable to society and their professional and personal development.



DEPARTMENT PROGRAMS

➤ *The CREDITS in PURPLE are required for completion for graduation.*

- **Biology and Chemistry**

- Biology and Chemistry Major *(79 Credits)*
- Biology Major *(75 Credits)*
- Chemistry Major *(75 Credits)*

- **Math and Physics**

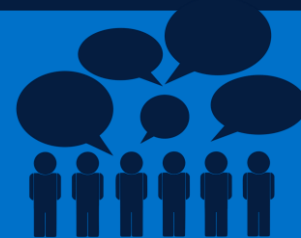
- Math Major *(72 Credits)*
- Math and Chemistry Major *(77 Credits)*
- Physics Major *(78 Credits)*

- **Pre-Nursing** *(78 Credits)*

- **Pre-engineering** *(83 Credits)*

- **Interdisciplinary Science** *(73 Credits)*

- Choice A and Choice B
- *Students design their science degree . . .*



Interdisciplinary PROGRAM...

(Important to know)

What is it?

- Fairly NEW Science Degree PROGRAM that covers more than one field of study in science.
- *Students design their science degree . . .*

Designed for:

- Students who have a strong background in the Science disciplines (Math, Bio, Chem, Physics, ENS, IT)
- Students who may have a career goal in mind that requires a unique combination of science/mathematics.
- Students who have not yet decided on a career path but know it will involve some area in science.
- Students who have a chosen career path in science and are trying to earn credit towards it when they apply to their universities of choice.



DEPARTMENT PROGRAMS

Interdisciplinary Science - *Students design their science degree*

Choice A (73 credits)

- with Year 1 & Year 2 Options
 - Year 1 – minimum of 25 credits
 - Year 2 – minimum of 11 credits
- Math requirement is MTH103 (Intermediate Algebra)
 - A combination of BIO/CHE and computer science courses
 - *May be eligible for 2 Units of CAPE.
 - MUST satisfy GENERAL CORES & ALL Pre-requisites.

Choice B (73 credits)

- with Year 1 & Year 2 Options
 - Year 1 – minimum of 25 credits
 - Year 2 – minimum of 11 credits
- A combination of ALL science major courses, Math major courses and computer science courses
 - Math requirement is MTH105 (Algebra for Sciences)
 - *May be eligible for 2 Units of CAPE.
 - MUST satisfy GENERAL CORES & ALL Pre-requisites.

➤ *The CREDITS in PURPLE are required for completion for graduation*



General Core Courses

(37 credits minimum)

- College Seminar - (1 credit)
- Computer Elective - (3 credits)
- English & Literature - (9 credits)
- Math - (6 / 7 credits)
- Philosophy - (3 credits)
- Theology - (6 credits)
- Social Science Elective - (6 / 7 credits)
- Language Elective - (3 credits)



Professional Core

Biology

| | |
|-----------|---|
| BIO 131 | Cellular Biology |
| BIO 131L | Cellular Biology LAB |
| CHEM 140 | Biochemistry |
| CHEM 140L | Biochemistry LAB |
| ENS 120 | Fundamental Ecological Principles with Field Work |
| BIO 240 | Plant Anatomy & Physiology |
| BIO 240L | Plant Anatomy & Physiology Lab |
| BIO 231 | Evolution and Biodiversity |
| BIO 231L | Evolution and Biodiversity LAB |
| BIO 232 | Genetics |
| BIO 241 | Human Anatomy and Physiology |
| BIO 241L | Human Anatomy and Physiology LAB |
| BIO 242 | Human Health and Disease |

Chemistry

| | |
|-----------|---------------------------------|
| BIO 131 | Cellular Biology |
| BIO 131L | Cellular Biology LAB |
| CHE 129 | Principles of Chemistry II |
| CHE 129L | Principles of Chemistry II LAB |
| CHEM 140 | Biochemistry |
| CHEM 140L | Biochemistry LAB |
| CHE 136 | Fundamental Organic Chemistry |
| CHE 230 | Analytical Methods in Chemistry |
| CHE 234 | Organic Chemistry |
| CHE 234L | Organic Chemistry LAB |
| CHE 239 | Inorganic Chemistry |
| CHE 239L | Inorganic Chemistry LAB |

Professional Core

Biology and Chemistry

BIO 131 Cellular Biology

BIO 131L Cellular Biology LAB

BIO 231 Evolution and Biodiversity

BIO 231L Evolution and Biodiversity LAB

BIO 232 Genetics

BIO 241 Human Anatomy and Physiology

BIO 241L Human Anatomy and Physiology LAB

BIO 242 Human Health and Disease

CHE123 – CHE239 + MTH216



Professional core

Math and Chemistry

Mathematics

BIO 131 Cellular Biology
BIO 131L Cellular Biology LAB
CHE 129 Principles of Chemistry II
CHE 129L Principles of Chemistry II LAB
CHEM 140 Biochemistry
CHEM 140L Biochemistry LAB
CHE 136 Fundamental Organic Chemistry
CHE 230 Analytical Methods in Chemistry
CHE 234 Organic Chemistry
CHE 234L Organic Chemistry LAB
CHE 239 Inorganic Chemistry
CHE 239L Inorganic Chemistry LAB +
MTH 119, 140, 145, 236

CIS 125 Principles of Programming I
CIS *** CIS OPEN
MTH 115 College Algebra
MTH 119 Trigonometry
MTH 140 Analytic Geometry
MTH 145 Calculus I
MTH 236 Calculus II
MTH 246 Probability and Statistics
MTH 250 Further Sequences and
Mathematical Modeling
MTH 260 Linear Algebra
SCI *** SCI OPEN
OPEN ELECTIVE (Non-Science OPEN elective)

Professional core *Physics*

- CHE123 Principles of Chem I
- CHE123L Principles of Chem I Lab
- MTH 115 College Algebra
- MTH119 Trigonometry
- MTH140 Analytic Geometry
- MTH145 Calculus I
- MTH236 Calculus II
- MTH246 Probability and Statistics
- PHY 116 Classical Mechanics for Scientists and Engineers
- PHY 116L Classical Mechanics for Scientists and Engineers LAB
- PHY 116R Classical Mechanics for Scientists and Engineers Recitation
- PHY 120 Introduction to Fluids, Materials and Thermodynamics
- PHY 130 Introduction to Analog and Digital Electronics
- PHY 130L Introduction to Analog and Digital Electronics LAB
- PHY216 Light, Waves and Oscillations
- PHY 216L Light, Waves and Oscillations LAB
- PHY226 Electromagnetism
- PHY 226L Electromagnetism LAB
- PHY236 Modern Physics
- PHY 236L Modern Physics



Professional Core

Pre-engineering

- **Math** MTH 119 Trigonometry
MTH 145 Calculus I
MTH 140 Analytical Geometry
MTH 236 Calculus II
MTH 246 Probability and Statistics
MTH 260 Linear Algebra
MTH 265 Calculus III
- **Chemistry** CHE 123 Principles of Chemistry I
CHE 123L Principles of Chemistry I Lab
- **Computer Science** CIS 125 Principles of Programming I
- **Physics** PHY 105 Physics I
PHY 105L Physics I Lab
PHY 210 Physics II
PHY 210L Physics II Lab
PHY 225 Physics III
PHY 225L Physics III Lab
- **Engineering** ENGR 105 Technical Drawing
ENGR 110 Computer Assisted Drawing
ENGR 205 Statics
- **Business** BUS 105 Principles of Management

Pre-Nursing

- **Biology** BIOL 1300 Human Anatomy & Physiology I
BIOL 1300L Human Anatomy and Physiology Lab
BIOL 1320 Human Anatomy and Physiology II
BIOL 1320L Human Anatomy and Physiology II Lab
BIOL 2200 Microbiology BIOL 2200L Microbiology Lab Y
- **Chemistry** CHEM 1161 Life Science Chemistry
CHEM 1161L Life Science Chemistry Lab Y
- **Nursing** NURS 2070 Introduction to Professional Nursing
NURS 2080 Human Health & Disease
NURS 2120 Acute Adult Health I
NURS 2122 Health Assessment Across the Lifespan
NURS 2122L Health Assessment Across the Lifespan Lab
NURS 2122C Health Assessment Across the Lifespan

Clinical

NURS 2205 Pharmacology
NURS 2206 Nutrition
NURS 2230 Family Health
NURS 2230C Family Health Clinical



PLACEMENT REQUIREMENTS

- Students taking any math major courses or chemistry courses must sit a placement exam.
- Students may be placed on MTH 100, MTH 101 or MTH 105 (0 credits - remedial courses)
- Students may be place in CHE 101 (0 credits - remedial courses)
- Students encouraged to do CHE 101, (recommendation suggested by past Chemistry majors and graduates).

PLACEMENT REQUIREMENTS

- ALL Students sit an English Placement exam
 - Math and Chemistry placement exams are sat by students applying to any program that requires taking Math major or Chemistry courses.
- Students may be placed in MTH 100/101 or ENG 100/101
- MTH 100/101 - (0 credits - remedial course)
(MTH 100/101 is not offered in the summer for incoming students)
- NOTE: IF you are placed in ENG 100/101 and/or MTH 100/101, you will need to switch a class in your course sequence to accommodate these classes and in the summer do the courses that you had to switch out to remain in sequence.
- Students may be placed in CHE 101 (0 credits - remedial course)
- students are encouraged to do CHE 101 even if placed in CHE 123 (3 credits), (recommendation suggested by past Chemistry majors and graduates).
- Students exempted from CHE 101 may choose to audit the course.
- **BIO 101**

How to prepare for Registration

- Credit Load Guidelines - follow your degree guide (roadmap)
- Understanding what a pre-requisite course is and successful completion of said courses, grade C and above
- Use of the Published Course Offerings to Plan Your Semester Schedule
 - ***Full time:* 15 and more credits per semester**
 - ***Part time:* 12 - 14 credits per semester**
 - ***Probation:* 12 - 13 credits per semester**

*** The majority of courses are 3 credits.**

*** Zero credit courses are part of a semester's course load.**

*** MOST new entrants take COLL 101 - College Seminar (1 credit) - check your degree guide**



- Associate Degree Program Guides
and
- Detailed Semester Course Sequence are
available online:

- Step 1: Go to www.sjc.edu.bz
- Step 2: Click on Junior College
- Then on Academic Departments



CAREER PATHS & EMPLOYMENT OPPORTUNITIES

1. Engineering foundation
2. Medicine: Doctor, Surgeon, Nurse, Physician Assistant, etc.
3. Research Scientist: Biologist, Chemist, Physicist, Environmental Scientist, etc.
4. Mathematics: Actuary, Statistician, Mathematician, Quantitative Analyst, etc.
5. Environmental Science: Environmental Engineer, Conservation Scientist, Environmental Consultant, etc.
6. Education: Math or Science Teacher, College Professor, Education Administrator, etc
7. Laboratory Technician
8. Quality Control Technician
9. Chemical or Biological Technician
10. Environmental Health

DEPARTMENT HIGHLIGHTS

Ecology Trip



Mole Day



Math Tutoring
Center



Community
Service



Math Symposium



***THANKS FOR CHOOSING
THE MATH & SCIENCE DEPARTMENT***