



# BIOTECHNOLOGY

Science that moves humanity forward

# KNOW BIOTECHNOLOGY

Biotechnology continues to impact many aspects of our lives. Ranging from enhanced methods of detecting, preventing and treating diseases, to advanced farming of plants and produce, biotechnology has provided many breakthroughs.

The biotechnology industry is moving forward with a focus on improving fields such as health care, agriculture, food and the environment. For example, prosthetic feedback and muscle stimulators assist patients in mobility and healing.

Another example is transgenic technology in plants. It is a breeding approach that creates genetically engineered plants carrying new characteristics to stimulate the production of wood without causing extreme damage to existing forests. These are some examples of what Biotechnology can do, and you could be a part of more significant breakthroughs.

Furthermore, Malaysia is focusing on the industry's growth. The implementation of the National Biotechnology Policy marks the country's official move to explore Biotechnology in the agriculture sector. Therefore, the constant development of the Biotechnology industry leads to an increased need for capable and trained personnel.

## WE OFFER

### Foundation in Science

JPT/BPP(R2/010/3/0371)10/26, (MQA/A7034)

The Foundation in Science program is an intensive academic curriculum designed to provide students with a strong foundational knowledge in the core scientific disciplines. This program serves as a stepping stone for individuals who aspire to pursue higher education in science-related fields or embark on careers in scientific research and innovation. With a focus on critical thinking, analytical skills and practical applications, the program equips students with the tools they need to excel in the dynamic and ever-evolving world of science.

### Bachelor of Science (Hons) Biotechnology

JPT/BPP(R3/0512/6/0045)11/29, (MQA/A9990)

This 3-year course is an innovative degree developed by piecing together the knowledge of experienced academicians and renowned industry partners in Biotechnology. Students will be equipped with the knowledge and skill sets in areas such as genetic engineering, medical biotechnology as well as food and agrotechnology, quality assurance, Good Manufacturing Practice (GMP), and Good Laboratory Practice (GLP). By the end of this course, students will also master the integration between technical knowledge and the business aspect of the biotech industry.

### Master of Applied Sciences (By Research)

JPT/BPP(R/0500/7/0071)04/28, (MQA/FA8119)

Nilai University's Master of Applied Sciences is a full research programme designed to extend the development beyond scholarly understanding and practice to include the capacity to conduct research. This programme provides an opportunity for students who have a first degree in applied sciences or related fields e.g. biotechnology, botany, zoology, chemistry, biochemistry, microbiology, and agriculture to be an aspiring researcher or move towards leadership roles within their professional sectors.





## PROGRAMME HIGHLIGHTS

- **Updated curriculum**

Students gain knowledge and skills in updated curriculum that fit the industry's demands such as food security, smart farming technologies, and stem cell therapy (Drug and Pharmaceutical Technologies).

- **Emphasis on practical skills**

Laboratory-based subjects such as Biotechnology Practical I and II, Plant Cell and Tissue Culture Techniques, Cell and Molecular Biology Laboratory and Final Year Research Project.

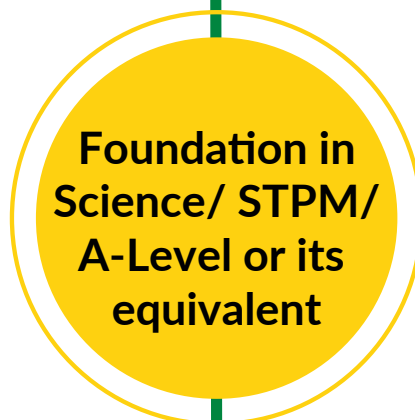
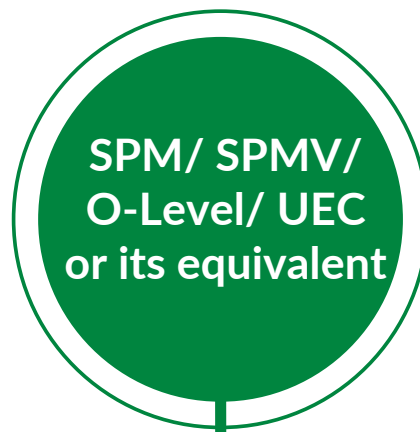
- **Great Affordability With Exclusive Scholarships**

The Biotechnology programmes offered at Nilai University are crafted with care. The syllabi are updated, and comprehensive facilities are available on campus to provide students with quality and holistic education. Up to 100% scholarships are also available for deserving students, encouraging them to perform well in their studies.

- **Interesting Electives**

Students are given the freedom to explore a combination of skill sets through various elective subjects. Electives offered include Public Speaking, Critical Thinking, Professional Development, Outward Bound, and many more. They help students gain better career opportunities as well as train them in communication, interpersonal and soft skills to create a well-rounded student.

## ACADEMIC PROGRESSION





## INTERNSHIP LINKAGES

### A variety of Internship Partners:

#### Agriculture / Biotechnology / Environment

- Agro-Biotechnology Institute
- Biofact Life Sdn. Bhd.
- CityFarm Malaysia
- Cryocord Sdn. Bhd.
- Gain Green Development Sdn. Bhd.
- Sunzen Biotech Bhd.
- Vivantis Technologies Sdn. Bhd.

#### Food Manufacturing/ QC/QA

- AiBio Food Sdn. Bhd.
- Coca-Cola Refreshment Malaysia
- Dynamic Transforms Sdn. Bhd.
- Fonterra Brands (Malaysia) Sdn. Bhd.
- Genting Malaysia Berhad
- Malaysian Yoghurt Company Sdn. Bhd.
- Maldives Food and Drug Authority
- Oriental Food Sdn. Bhd.
- SGK Food Industry Sdn. Bhd.
- Sunshine Bread Sdn. Bhd.

#### Healthcare / Pharmaceutical

- Biolife Lab Sdn. Bhd.
- BP Healthcare Sdn. Bhd.
- Cryocord Sdn. Bhd.
- Duopharma (M) Sdn. Bhd.
- Pathology & Clinical Laboratory (M) Sdn. Bhd.
- Royce Pharma
- Verducare Wellness Solutions Sdn. Bhd.

#### Manufacturing / Industrial Testing

- ALS Technichem (M) Sdn. Bhd.
- Merieux Nutrisciences
- My Test Lab
- Nicko Jeep Manufacture Sdn. Bhd.
- Permular Sdn. Bhd.
- RedDot Brewhouse (Singapore)
- Top Glove International Sdn. Bhd.
- Water Revelation Sdn. Bhd.



# CAREER PROSPECTS

The industry relevant subjects offered at Nilai University cultivate students that are highly-sought by the industries. Parallel to the stringent Quality Assurance and Quality Control GMP and relevant Good Practices, students are set for career opportunities in many areas:

## Medicine

- Stem cell research & application
- Therapeutic drugs, vaccines and protein development
- Genetic testing for disorders
- DNA profiling (forensic use and family history)

## Environmental Processes

- Wastewater purification
- Removal of wastes and pollution in the environment
- Recovering or protecting threatened species
- Biological control of pests
- Researching for more environmentally sound alternatives (biofuels, superglue, sunscreen lotion)
- Green plastics biosensors for environmental monitoring

## Agriculture / Food Industry

- Production of plants with enhanced nutritional value, high yields and resistance to environmental stresses
- Plant genetics and tissue engineering
- Probiotics and brewing

## Bioinformatics / Biostatistics / Others

- Academia
- Pharmaceutical sciences
- Medical technology
- Computer information science
- Data analysis & management
- Biological research
- Social sciences research

## Other Career Options

- Biochemist/Microbiologist
- Biotechnologist
- Research Scientist
- QA Executive
- Science Educator
- Product Marketing Manager
- Data Science Analyst
- Process Development Scientist
- Manufacturing Manager
- Clinical Researcher
- Medical Writer
- Consultant



# PROGRAMME MODULE

## Foundation in Science

JPT/BPP(R2/010/3/0371)10/26, (MQA/A7034)

The Foundation in Science program is an intensive academic curriculum designed to provide students with a strong foundational knowledge in the core scientific disciplines. This program serves as a stepping stone for individuals who aspire to pursue higher education in science-related fields or embark on careers in scientific research and innovation. With a focus on critical thinking, analytical skills and practical applications, the program equips students with the tools they need to excel in the dynamic and ever-evolving world of science.

### Basic Courses

- Basic Programme Design
- Co-curriculum
- English Language Proficiency
- Field Trips and Study Tour
- Foundation of Statistics
- Introduction to Academic English
- Introduction to Business
- Introduction to IT
- Introduction to Marketing
- Introduction to Programming

### Elective Courses

- Advanced Mathematics
- Basic Electrical Engineering
- Biological Science I
- Biological Science II
- Computer Hardware and Maintenance
- General Chemistry I
- General Chemistry II
- General Physics I
- General Physics II
- Introduction to Workshop
- Mathematics for Science

\*Periodic changes are made as part of continuous improvements.



# PROGRAMME MODULE

## Bachelor of Science (Hons) Biotechnology

JPT/BPP(R3/0512/6/0045)11/29, (MQA/A9990)

Our programme is a cutting-edge, interdisciplinary degree programme that has been designed with input from industry experts and academic professionals. You will have the opportunity to engage in hands-on practical sessions, which will allow you to apply your theoretical knowledge in real-world settings. These practical experiences will assist you in developing essential laboratory skills and techniques that are vital in the field of biotechnology. You will explore captivating topics that include biotechnology modules, in addition to electives in Drug and Pharmaceutical Technology, Food Security, Plant Cell and Tissue Culture Techniques, Protein Technologies, and many other specialisations of the future.

### Duration:

Full Time: 3 years  
Part Time: (none)

### Key Courses

#### Year 1:

- Understanding Biotechnology
- Introductory Biology
- General Chemistry
- Statistics
- Genetics
- Microbiology
- General Biochemistry
- Biotechnology Practical I
- Foundation of Business
- Cell and Molecular Biology
- Biodiversity and Environmental Bioresources

#### Year 2:

- Bioinformatics
- Organic Chemistry
- Industrial Microbiology
- Cell and Tissue Culture
- Biotechnology Practical II
- Innovation and Commercialisation
- Quality Assurance and Quality Control
- Research Methods and Design
- Elective I

#### Year 3:

- Cell and Molecular Biology Laboratory
- Introduction to Bioprocess Engineering
- Industrial Good Practices
- Elective II (1 course)
- Research Project I
- Research Project II
- Internship

#### Electives related to core:

##### Elective I (Choose 1 from 2 tracks below)

##### Track 1 – Medical Biotechnology

- Introduction to Forensic Science
- Drug and Pharmaceutical Technology
- Immunological Techniques in Biotechnology

##### Track 2 – Food and Agrotech

- Food Security
- Smart Farming Technology
- Food Science and Technology

##### Elective II (Choose 1 from 3 courses below)

- Plant Cell and Tissue Culture Techniques
- Protein Technologies
- Environmental Biotechnology

\*Periodic changes are made as part of continuous improvements.

# PROGRAMME MODULE

## Master of Applied Sciences (By Research)

JPT/BPP(R/0500/7/0071)04/28, (MQA/FA8119)

Nilai University's Master of Applied Sciences is a full research programme designed to extend the development beyond scholarly understanding and practice to include the capacity to conduct research within an area of interest in the field of Applied Science. This programme provides an opportunity for students who have a first degree in applied sciences or related fields e.g. biotechnology, botany, zoology, chemistry, biochemistry, microbiology, and agriculture to be an aspiring researcher or move towards leadership roles within their professional sectors.

### Duration:

Full Time : 2-4 Years  
Part Time : 3-5 Years

### Core Courses

Core Subject - Research methodology Statistics

\*Periodic changes are made as part of continuous improvements.



# ENTRY REQUIREMENTS

## Foundation in Science

JPT/BPP(R2/010/3/0371)10/26, (MQA/A7034)

<b>SPM/ SPMV</b>	Pass with at least credit in 5 subjects; or
<b>O-Level</b>	Pass with at least Grade C in 5 subjects; or
<b>UEC</b>	Pass with at least Grade B in 3 subjects; or its equivalent

## Bachelor of Science (Hons) Biotechnology

JPT/BPP(R3/0512/6/0045)11/29, (MQA/A9990)

<b>STPM or equivalent</b>	Pass with minimum Grade C (GPA 2.00) in any two (2) subjects and SPM with three (3) credits including Mathematics and one (1) Science subject; or
<b>A-Level</b>	Pass with minimum Grade D in any two (2) subjects and possess SPM or equivalent with three (3) credits including Mathematics and one (1) Science subject; or
<b>UEC</b>	Pass with at least Grade B in five (5) subjects inclusive of Mathematics and one (1) Science subject; or
<b>STAM</b>	Pass with minimum grade of Jayyid and SPM with three (3) credits in Mathematics and one (1) Science subject; or
<b>Foundation/ Matriculation</b>	Minimum CGPA 2.00 and possess SPM or its equivalent with three (3) credits in Mathematics and one (1) Science subject; or
<b>Diploma (Level 4, MOF) in a related field</b>	Minimum CGPA 2.00; or its equivalent

Note: The SPM credit requirements may be waived if the grades obtained at STPM/ A-level/ UEC/ STAM/ Foundation/ Matriculation are equivalent or higher.

## Master of Applied Sciences (By Research)

JPT/BPP(R/0500/7/0071)04/28, (MQA/FA8119)

<b>Bachelor's degree (Level 6, MQF) in a related field</b>	Pass with a minimum CGPA of 2.75, or its equivalent; or
	Pass with a minimum CGPA of 2.50 or its equivalent; an internal evaluation / interview may be required; or
	CGPA of below 2.50, or its equivalent with a minimum of 5 years of working experience in the relevant field



# ENGLISH REQUIREMENTS

\*(For International Students)

## Foundation in Science

JPT/BPP(R2/010/3/0371)10/26, (MQA/A7034)

Linguaskill	140
IELTS	4.0
MUET	3.0
TOEFL	30-31 (iBT) 5 (Ess OL)
Pearson	36
ELS	106

## Bachelor of Science (Hons) Biotechnology

JPT/BPP(R3/0512/6/0045)11/29, (MQA/A9990)

Linguaskill OL	154
MUET	3.5
IELTS	5.0
TOEFL	7.5 Ess (OL) / 40 (iBT)
Pearson	47
ELS	107

## Master of Applied Sciences (By Research)

JPT/BPP(R/0500/7/0071)04/28, (MQA/FA8119)

Linguaskill OL	160
IELTS	5.5
MUET	4.0
TOEFL	8 (Ess OL) / 46 (iBT)
Pearson	51
OET	200
ELS	108

*\*International students with qualifications from educational systems where the English language is the primary medium of instruction are exempted from this requirement.*

*International students who do not fulfil the English Language Requirements may join the Intensive English Programme at Nilai University which builds their skills in the language and prepares them for the Linguaskill examination.*



Beryl's  
Cookie Factory



Indah Water Consortium

# EXCELLENCE BEYOND CLASSROOM

Leadership and people-relational skills are uniquely developed through field trips and projects. Through every event, trip, and conference, students will not only get to gain practical application but also experience an enriched varsity life along with their peers.



Yakult Factory

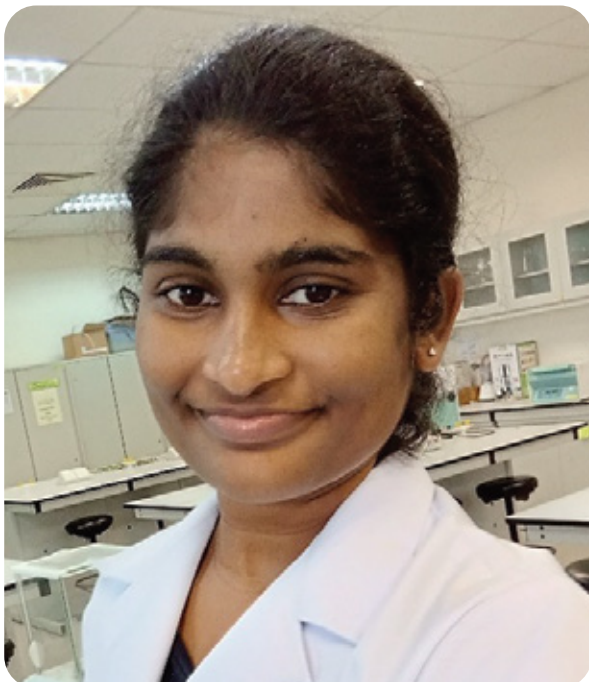


# OUR ACHIEVERS AND ALUMNI

During my internship at CryoCord, I worked in the R&D department where I accomplished tasks like proposal writing, liaising with manufacturers, creating social media posters, participating in lab experiments, and performing typical lab tasks. The experience helped me gain practical knowledge in laboratory techniques, research and proposal writing, and soft skills such as communication, collaboration, and time management. Overall, it was a rewarding experience that enhanced my knowledge and skills in stem cell research.

## Chew Tze Wei

*Bachelor of Science (Hons) Biotechnology*  
*Internship Company: CryoCord Sdn. Bhd.*



I did my internship at Mérielux NutriSciences Malaysia Sdn Bhd (KL), where I gained valuable experience in both studies and professional development. The internship was well-organized and helped me improve my practical skills in water quality testing parameters. I also learned important soft skills such as time management, problem-solving, and communication. Overall, it was a great experience that allowed me to meet talented professionals who offered me advice and guidance.

## S.H. Malithi Manohari

*Bachelor of Science (Hons) Biotechnology*  
*Internship Company: Mérielux NutriSciences Malaysia Sdn Bhd (KL)*

# GAIN QUALITY EDUCATION AT NILAI UNIVERSITY

All programmes offered at Nilai University observe the strict guidelines of the Malaysian Qualifications Agency (MQA) and Ministry of Higher Education (MOHE). The university, established in 1998 emphasises excellence and thus strives to provide quality education.

## Quality Education

Programmes are affordable for students from all walks of life. Lectures are conducted in small groups so that each student can have personalised attention.

## Exposure to Diverse Cultures

International students from different countries across the world choose to study at Nilai University. With a student community of diverse backgrounds, the interaction between international and local students encourages sharing, understanding, and acceptance of various cultures.

## Co-curricular Activities for Personal Development

Nilai University provides a 'Total Student Experience' with engaging clubs to encourage creativity, networking and active participation in various events. The experience gained can be included in students' portfolio to increase employment opportunities. There are initiatives such as the Mentor-Mentee programme to help new students feel at home and blend in.

## Master the English Language

As the university has a multicultural community, students and staff are encouraged to communicate in English with intensive English classes available for those who need it.



Our drive for excellence is globally endorsed by **QS Rating with 5 Stars** in the following categories



**TEACHING**



**ACADEMIC DEVELOPMENT**



**FACILITIES**



**EMPLOYABILITY**



**SPECIAL CRITERIA:**  
Masters of Business Administration



**INCLUSIVENESS**

## SETARA Ranking

Nilai University has been awarded the prestigious "Competitive" rating from the Malaysian Integrated Rating of Higher Education Institutions (SETARA) 2022.

This recognition is a result of outstanding performance in various evaluation areas, particularly in General and Teaching and Learning.

This achievement highlights our ability to compete at a higher level and demonstrates our commitment to providing education beyond borders.

## Professional Recognition/Industry & Academic Partners



# NILAI UNIVERSITY

## Enrichment For Life



### Lush Campus

Nilai University has a charming campus with lush greenery surrounding the hostels and lecture halls for an open and relaxed learning environment. Away from the bustling city, you will enjoy a refreshed outlook studying here with your peers.



### Peaceful Environment

As a university town, Nilai University knows the importance of a peaceful atmosphere for students to be able to focus on their studies. The university has a spacious layout ideal for students to have an individual study session.



### Strategic Location

Nilai University is located in the township of Putra Nilai. Nilai town has all the necessary amenities such as banks, hospitals, malls, eateries and more. The university is easily accessible via the national highway. We are only a 35-minute drive away from the city centre of Kuala Lumpur and 20 minutes drive away from the Kuala Lumpur International Airports. (KLIA 1 & KLIA 2).

## Full Campus Facilities

We have facilities catering to recreation and hands-on training to ensure students are well-rounded individuals prepared to enter the professional workforce.

### Recreation



Football/Rugby Field



Golf Course\*



Swimming Pools\*



Gymnasium



Basketball Courts



Indoor Badminton Court



Indoor Sports Centre



Lakeside Recreation Park & Jogging Track



Table Tennis



Tennis Courts



Volleyball Courts

### Amenities



International Student Visa Application



Accommodation



Canteen



Shuttle Bus Service



WiFi-enabled campus



Laundrette



Minimart



Muslim Prayer Rooms



ATM



Bookshop



International Student Airport Pick-Up

### Learning



Aircraft Hangar



Demonstration Kitchen



Formal Dining Restaurant



Hospitality Training Facilities



Laboratories

- Avionics
- Fluid Mechanics
- Materials and Mechanics
- CAD and Simulation
- Electrical and Electronics
- Biology
- Chemistry
- Analytical
- Biotechnology
- Physics



Engineering and Aircraft Maintenance Engineering Workshop



Nursing Skill & Simulation Laboratories



Learning Resource Centre

\*At the nearby Nilai Springs Golf and Country Club.



# WHAT OUR STUDENTS SAY

“Joining the biotechnology programme is unlike any other because you will have the knowledge of improving people’s lives and also do things, which will safeguard the future of the planet. If you are strong in your Biology and Chemistry and have a natural affinity for laboratory work, this is the programme for you.”

Thiban Sandramuti,  
BSc (Hons) in Biotechnology

“I wanted a career which will present fresh challenges every day, one in which I will learn new things all the time. Biotechnology is a fast-growing field with discoveries made every year. I feel very comfortable in a lab environment, and this is where I think I will grow best intellectually.”

Joyce Chin Seow Fong,  
BSc (Hons) in Biotechnology

“The lecturers are very experienced, and they take the time to explain the lessons. If I do not understand any part of the lessons, I can always approach them for an in-depth explanation.”

Ian Lai Jiong Soon,  
BSc (Hons) in Biotechnology

## HOW TO APPLY?

- Choose your programme
- Fill in the online application form ONLY if you want to apply for admission into a programme offered at Nilai University. Confirm your accommodation type in the application (if needed).
- Once we receive your online application form, our educational counsellor will contact you to assess your eligibility and subsequently, arrange for payment of the first semester's fees and confirm your accommodation booking (if necessary).
- You may pay for Application Fee, Accommodation Fee and the first semester's fees via our fee payment channels as listed.

### Payment method:

Payment at the counter, Ground Floor, Resource Centre, Nilai University Campus

### Operating hours:

Monday to Friday from 9:00 am to 4:00 pm

### Mode of payment:

- Cash
- Credit Card: Visa, Mastercard and Union Pay only
- Debit Card: MyDebit, Visa/ Mastercard Debit Cards
- Cheque-Payable to "NILAI EDUCATION SDN BHD"
- Online Banking

### Payee Name:

Nilai Education Sdn Bhd

### Bank Details:

Account No: 2050-5110-000-979 | RHB Bank Berhad





## THE OFFER LETTER

Once the Administration Office receives the receipt of your application fee and visa processing fee (international students), you will receive an offer letter via email and post. The Administration Office will post the original copy to the address stated in the application form.

You should expect to receive the following:

### **Letter of Offer:**

Admission/registration information, intake date and details for the programme that you have applied for will all be stated in the letter.

### **Receipt:**

A receipt of your initial payments will be included. Please contact us immediately if you do not receive a copy of the receipt.

Register personally and check into the rooms on the date stated in your Letter of Offer.

If you are unable to register personally, please call the Office of Admissions and Records (OAR) at **+606 8502338** to indicate the date you will arrive to register and check into your accommodation.

Airport pick-up (for East Malaysia & international students arriving by flight) can be arranged for new students. Call **+606 8502308** to speak to our educational counsellors to arrange for the transportation.

## Confirmation of acceptance

Once you have registered, it's time to start your classes and enjoy university life! If you require information on a programme, financing options or need to clear any doubts, please use the online enquiry form OR call to speak to an education counsellor at **+606 8502308**.





# MAP TO NILAI UNIVERSITY







# TRAIN ROUTE







## FIND US ON:



[www.nilai.edu.my](http://www.nilai.edu.my)

We are open daily  
(9:00 am - 5:00 pm)  
Closed on Public Holidays

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Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia.

Tel: +606-850 2308 | Email: [study@nilai.edu.my](mailto:study@nilai.edu.my)

Nilai Education Sdn Bhd  
Registration No: 199401021536 (307215-P)

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**Watch the video**  
Biotechnology