

ITE 06/18/01



News Release No. 10/16

ITE Streamlines Its Courses to Meet Demands of Electronics Industry

Review leads to two new Electronics courses in Jan 2017 catering to different sectors

For sharper alignment with the manufacturing and non-manufacturing sectors of the electronics industry, ITE has streamlined six *Nitec* in Electronics courses into two, namely the new ***Nitec* in Electronics, Computer Networking & Communications**, and ***Nitec* in Microelectronics**. The *Nitec* intake capacity in 2017 remains unchanged from this year's figures – at 800 students – to meet the demands of the electronics industry.

2 In the revised Electronics course that cater to the manufacturing sector, students studying the Microelectronics specialisation will be equipped the skills and knowledge to support wafer fabrication process operations and process development for production of integrated circuits in electronics devices. Graduates are trained to become Semiconductor Process Technicians in the labour market.

3 To support the non-manufacturing sector for Electronics Technicians, a revamped *Nitec* in Electronics, Computer Networking & Communications certification will be rolled out. Graduates of this course will acquire fundamental skills in technology, like power electronics, servo motors, solid state relays and microcontrollers.

Enhancing Employability of ITE's Electronics Graduates

4 The two revised *Nitec* in Electronics courses are aimed at enhancing the employability of ITE's Electronics graduates. In light of rapid technological advances in the Electronics industry, employers need *Nitec* graduates to be adept in fundamental and generic installation, maintenance and troubleshooting. Conducted in consultation with the Association of Electronics Industries in Singapore (AEIS), Singapore Economic Development Board (EDB) and ITE's Electronics & Information Technology Academic

Advisory Committee, the training takes into account new trends and growth areas that our graduates can join.

5 “The streamlining of the courses provides better clarity and offers broad-based skills in Electronics that are sought after today. These skills provide a good foundation for students to acquire deeper expertise through subsequent on-the-job training. Overall, these changes will enhance the attractiveness of ITE’s graduates to potential employers,” said Mr Pee Beng Kong, Director (Electronics), Economic Development Board.

6 More information on the *Nitec* in Electronics, Computer Networking & Communications, and *Nitec* in Microelectronics courses can be found in **Annex A**.

7 The entry requirements of full-time *Nitec* courses for 2017 is attached at **Annex B**.

Direct Entry Scheme to Polytechnic Programme (DPP)

8 GCE Normal (Academic) students who aspire to obtain a polytechnic diploma may pursue direct articulation into polytechnic diploma courses through the Direct Entry Scheme to Polytechnic Programme (DPP). Under the DPP, students who successfully complete their *Higher Nitec* course and attain the required minimum qualifying *Higher Nitec* Grade Point Average can gain entry to a polytechnic diploma course mapped to their *Higher Nitec* course. The list of *Higher Nitec* courses offered under DPP and entry requirements are in **Annex C**.

Application Procedures

9 Application will be open as follows:

GCE ‘N’ Levels holders

Full-time Courses

19 December 2016, 2:30 pm to 22 Dec 2016, 5:00 pm

Traineeship Courses

19 December 2016, 2:30 pm to 30 Dec 2016, 5:00 pm

10 Secondary school-leavers who have taken their GCE ‘N’ Level examinations in 2016 can submit their applications for full-time courses and Traineeship courses via the ITE website: www.ite.edu.sg

Media Publicity

11 Media are invited to publicise the contents of this release to inform the public of the *Nitec* and *Higher Nitec* courses, and course application procedures.

12 For more information, please contact:

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About ITE

The Institute of Technical Education (ITE) is a post-secondary education institution established in **1992** under the Ministry of Education. As a principal provider of career and technical education, and a key developer of national occupational skills certification and standards, ITE's **Mission** is to create **opportunities** for students and adult learners to acquire skills, knowledge and values for employability and lifelong learning. ITE's **Vision** is to be A **Trailblazer** in Career and Technical Education. Our **Values** are **Integrity, Teamwork, Excellence** and **Care**. ITE comprises the ITE Headquarters and three ITE Colleges - College Central, College East and College West. For more information, visit www.ite.edu.sg.

Released on: 16 December 2016

NITEC IN ELECTRONICS, COMPUTER NETWORKING & COMMUNICATIONS

国家工艺教育局证书 电子,电脑网络 与通讯

Introduction

The worldwide electronics industry is experiencing phenomenal change marked by rapid technological advances. These changes have resulted in devices, machines and systems becoming increasingly connected and “smart”; enabling the sensing storing and sharing of information that enable the development of new solutions for consumers and industries. There is therefore need for a broad-based course to prepare ITE graduates to be more versatile and resilient to avoid the risk of displacement.

The *Nitec* in Electronics, Computer Networking & Communications course equips its graduates with broad-based, sustainable and strong fundamental skills as part of a workforce in a dynamic economy.

Course Outline

On completion of the course, students should be able to:

- Install electronic devices/systems;
- Maintain electronic devices/systems;
- Troubleshoot electronic devices/systems;
- Set up computer/networks;
- Fabricate electronic prototypes;
- Provide customers after-sales services; and
- Update installation and maintenance records for reference purposes.

Entry Requirements

Applicants must have three GCE ‘N’ Passes (Grade 1-5 or A-D) in Mathematics or Science and two other subjects or 2 GCE ‘O’ Grades (1-8) in any two subjects

Duration

Two years

Projected Training Places

There will be a total of 720 students in the three ITE Colleges.

Job Opportunities & Career Prospects

Nitec in Electronics, Computer Networking & Communications graduates are employed by companies that manufacture electronic and computer equipment. Some of the job titles held by graduates include Electronics Technician, Electronics Production Technician, Communication Equipment Technician, Test and Measurement Technician, Engineering Assistant and Electronics Specialist.

Progression Opportunities

Nitec in Electronics, Computer Networking & Communications graduates may apply for progression to the first year of a related diploma course at the Polytechnics.

Facilities and Training

Students will be equipped with skills and knowledge to install, maintain, and troubleshoot electronic systems and computer networks. The course curriculum includes theory lessons in classrooms, training on electrical and electronic principles, computer networking principles, electronic control and communication systems. They will apply and integrate the skills and knowledge acquired in the course in an applied electronics module before embarking on industry attachment with relevant electronic companies.

NITEC IN MICROELECTRONICS

国家工艺教育局证书 微电子

Introduction

Singapore, being the choice location for electronic companies, is home to 9 of the world's top 15 fabless semiconductor companies, 14 silicon integrated circuit wafer fabrication plants, 15 semiconductor assembly and test operations and 6 of the world's top integrated device manufacturers. Some of these include Micron, STMicroelectronics Pte Ltd, United Microelectronics Corporation ("UMC"), United Test and Assembly Center ("UTAC"), GLOBALFOUNDRIES Singapore Pte Ltd, Qualcomm, and Systems on Silicon Manufacturing Co ("SSMC"). Today, Singapore accounts for one in ten of the world's IC enterprises.

In line with the Government's commitment to promote wafer fabrication industry, a major industry underpinning Singapore's economic growth, the *Nitec* in Microelectronics aims to provide training for technical skills and knowledge to support wafer fabrication process operations and process development for the production of integrated circuits used in electronics devices.

Course Outline

On completion of the course, students should be able to:

- Monitor wafer fabrication process performance
- Collect, organize and interpret production and product performance data
- Monitor and improve process capability and quality
- Conduct process development and yield enhancement programmes
- Summarise data and information in development programme
- Document process development programme
- Assist in failure analysis

Entry Requirements

Applicants must have three GCE 'N' Passes (Grade 1-5 or A-D) in Mathematics or Science and two other subjects or 2 GCE 'O' Grades (1-8) in any two subjects

Duration

Two years

Projected Training Places

There will be a total of 80 students in ITE College Central

Job Opportunities & Career Prospects

Nitec in Microelectronics graduates are employed by companies that manufacture micro-electronic components and integrated circuit chips. Some of the job titles held by

graduates include Semiconductor Process Technician, Semiconductor Manufacturing Technician, Wafer Fabrication Process Technician and Wafer Fabrication Manufacturing Technician.

Progression Opportunities

Nitec in Microelectronics graduates may apply for progression to the first year of a related diploma course at the Polytechnics.

Facilities and Training

Students will be equipped with skills and technical knowledge in core modules such as Electrical Principles and Measurements, Digital Electronics, Analogue Electronics, Computer Networking Principles, Semiconductor Fundamentals, Wafer Fabrication Process and Applied Microelectronics. Students will have the opportunity to be attached to semiconductor companies for 3 months to deepen their skills in wafer fabrication processes.

FULL-TIME NITEC COURSES AND ENTRY REQUIREMENTS

Course Duration: 2 years

Course Title	Minimum Entry Requirements
<p><i>Nitec</i> in:</p> <ul style="list-style-type: none"> • Applied Food Science • Chemical Process Technology • Community Care & Social Services • Opticianry 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics or Science and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p><i>Nitec</i> in Nursing</p>	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in English Language, Mathematics and one other subject.</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p><i>Nitec</i> in:</p> <ul style="list-style-type: none"> • Business Services • Finance Services • Fitness Training • Floristry • Travel & Tourism Services 	<p>3 GCE 'N' Passes (Grade A–D or Grade 1-5) in English Language and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p><i>Nitec</i> in:</p> <ul style="list-style-type: none"> • Beauty & Wellness • Hair Fashion & Design • Logistics Services • Retail Services 	<p>Completed GCE 'N' Level</p> <p>Or</p> <p>Completed GCE 'O' Level</p>
<p><i>Nitec</i> in:</p> <ul style="list-style-type: none"> • Fashion Apparel Production & Design • Visual Effects 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics or Science and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>

<p>Nitec in:</p> <ul style="list-style-type: none"> • Space Design (Architecture) • Space Design (Interior & Exhibition) 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects.</p>
<p>Nitec in Visual Communication</p>	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in English Language and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects.</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Digital Animation • Product Design 	<p>Completed GCE 'N' Level</p> <p>Or</p> <p>Completed GCE 'O' Level</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Digital Audio & Video Production • Social Media & Web Development 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Electronics, Computer Networking & Communications - NEW • Info-Communications Technology (Cloud Computing) • Info-Communications Technology (Mobile Networks & Applications) • Info-Communications Technology (Networking & Systems Administration) • Microelectronics 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics or Science and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>

<p>Nitec in Security Technology</p>	<p>Completed GCE 'N' Level Or Completed GCE 'O' Level</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Aerospace Avionics • Aerospace Technology • Electrical Technology (Lighting & Sound) • Electrical Technology (Power & Control) 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics and two other subjects Or 2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Aerospace Machining Technology • Medical Manufacturing Technology • Rapid Transit Technology 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in Mathematics or Science and two other subjects Or 2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p>Nitec in:</p> <ul style="list-style-type: none"> • Automotive Technology (Heavy Vehicles) • Automotive Technology (Light Vehicles) • Facility Technology (Air-conditioning & Refrigeration) • Facility Technology (Landscaping Services) • Facility Technology (Mechanical & Electrical Services) • Facility Technology (Vertical Transportation) • Laser & Tooling Technology • Mechanical Technology • Mechatronics 	<p>Completed GCE 'N' Level Or Completed GCE 'O' Level</p>

<p><i>Nitec</i> in:</p> <ul style="list-style-type: none"> • Food & Beverage Operations • Pastry & Baking • Western Culinary Arts 	<p>3 GCE 'N' Passes (Grade A-D or Grade 1-5) in English Language and two other subjects</p> <p>Or</p> <p>2 GCE 'O' Grades (Grade 1-8) in any two subjects</p>
<p><i>Nitec</i> in Asian Culinary Arts</p>	<p>Completed GCE 'N' Level</p> <p>Or</p> <p>Completed GCE 'O' Level</p>

FULL-TIME *HIGHER NITEC* COURSES AND ENTRY REQUIREMENTS UNDER DIRECT ENTRY SCHEME TO POLYTECHNIC PROGRAMME (DPP)

Course Duration: 10 weeks of preparatory course followed by 2 years *Higher Nitec* training

Course Title	Minimum Entry Requirements
<p><i>Higher Nitec</i> in:</p> <ul style="list-style-type: none"> • Chemical Technology • Civil & Structural Engineering Design • Electrical Engineering • Electronics Engineering • Mechanical Engineering • Mechatronics Engineering • Business Information Systems • Cyber & Network Security • Games Art & Design • Information Technology 	<p>A total of 19 points or less for English Language, Mathematics and 3 other subjects (ELMAB3) in the GCE 'N(A)' examinations</p> <p>For the ELMAB3 aggregate score, you must have:</p> <ul style="list-style-type: none"> - Grade 1-4 in English Language - Grade 1-4 in Mathematics - Grade 1-5 in the 3 other subjects
<p><i>Higher Nitec</i> in:</p> <ul style="list-style-type: none"> • Accounting • Banking Services • Event Management • Hospitality Operations • Leisure & Travel Operations • Logistics for International Trade • Service Management 	<p>A total of 19 points or less for English Language, Mathematics and 3 other subjects (ELMAB3) in the GCE 'N(A)' examinations</p> <p>For the ELMAB3 aggregate score, you must have:</p> <ul style="list-style-type: none"> - Grade 1-3 in English Language - Grade 1-4 in Mathematics - Grade 1-5 in the 3 other subjects