



News Release No. 13/17

ITE Introduces New Precision Engineering Course to Meet Industry Needs

New Nitec in Digital & Precision Engineering to train students in digital manufacturing skills

To prepare students for changing workforce demands in the Precision Engineering industry, the Institute of Technical Education (ITE) will be offering a new *Nitec* in Digital & Precision Engineering course at ITE College Central from January 2018. The two-year course aims to equip students with the skills to take on new roles, as the industry shifts toward digital manufacturing technologies.

Equipping Students for Industry Changes

With the roll-out of the Precision Engineering Industry Transformation Map (ITM) by the Government, the industry will be focusing on new growth areas such as robotics, additive manufacturing (3D printing), lasers and optics. Some 3,000 new jobs are expected to be created in these areas, which include higher-skilled jobs in machine programming, data analysis and network maintenance.¹

The *Nitec* in Digital & Precision Engineering was developed to enhance the employability of graduates amidst these industry changes, by equipping them with the relevant skills and technical competencies. This was done in consultation with the Economic Development Board (EDB) and the Singapore Precision Engineering & Technology Association (SPETA).

Graduates are trained to be machinists at the higher-value chain of activities in the manufacturing industry. They will acquire higher level programming and machining skills for complex CNC machining.

SPETA's Executive Director, Mr Steven Koh, said: "Precision Engineering is a key pillar of the future economy led by smart and digital manufacturing. The future economy requires

¹ <https://www.mti.gov.sg/MTIInsights>



workers to be skilled and knowledgeable in digitisation and The Internet of Things (IOT). The introduction of this course is timely in training up graduates to stay relevant to such industry needs. It also widens the employment opportunities available to them.”

More information on the new *Nitec* in Digital & Precision Engineering course can be found in **Annex A**.

ITE will be offering 46 *Nitec* courses, 48 *Higher Nitec* courses, and 22 Traineeship courses in 2018. Details on the full-time *Nitec* courses for 2018 and their entry requirements can be found in **Annex B**.

Direct Entry Scheme to Polytechnic Programme (DPP)

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

Application will be open as follows:

GCE ‘N’ Levels holders - Full-time Courses

18 December 2017, 2:30 pm to 21 December 2017, 5:00 pm

GCE ‘N’ Levels holders - Traineeship Courses

18 December 2017, 2:30 pm to 4 January 2018, 5:00 pm



The ITE Traineeship Scheme allows trainees to “earn-as-you-learn” in a sponsoring company. It provides them with on-the-job skills training and leads toward national certifications awarded by ITE.

Secondary school-leavers who have taken their GCE ‘N’ Level examinations in 2017 can submit their applications for full-time courses and Traineeship courses via the ITE website:

www.ite.edu.sg

For more information, please contact:

Mr Hans Yeo
Corporate & Media Relations Officer
Tel: 6590 2040 (O) / 9759 7389 (HP)
Email: hans_h_z_yeo@ite.edu.sg

Released on: 14 December 2017

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.



Annex A

NITEC IN DIGITAL & PRECISION ENGINEERING

Introduction

The precision engineering sector is shifting toward higher value-added activities that will form the foundation for manufacturing in the future. These include robotics, additive manufacturing (3D printing), sensors, lasers and optics.

To prepare students for these changes, the new *Nitec* in Digital & Precision Engineering course will be introduced from January 2018 at ITE College Central. It will equip students with hands-on skills and practical knowledge to take on new roles in precision engineering.

Course Outline

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

- Generate CNC part-programmes using advanced CAD/CAM system
- Monitor and control digital manufacturing processes
- Manufacture precision components using laser, additive & machining technologies
- Perform quality checks

Entry Requirements

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

Duration

2 years



Projected Training Places

There will be a total of 200 places per year.

Job Opportunities & Career Prospects

Graduates of the *Nitec* in Digital & Precision Engineering course may be employed as Manufacturing Specialists in the manufacturing industry, in particular the Aerospace, Oil & Gas, Precision Modules & Components, Medical Manufacturing, Transport Engineering and Machinery & Systems sectors.

Progression Pathways

Nitec in Digital & Precision Engineering graduates may apply for progression to the first-year of a related diploma course at the Polytechnics, or deepen their skills via related *Higher Nitec* courses offered by ITE.

They may also apply for progression to the Technical Engineer Diploma in Machine Technology course conducted by ITE in collaboration with Ministry of Education, Youth and Sports (MEYS), Baden-Württemberg, Germany.

Annex B

FULL-TIME NITEC COURSES AND ENTRY REQUIREMENTS

Course Duration: 2 years

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

	Nitec in Retail Services (3-years)	GCE 'N' Technical students with 0 or 1 'N' Level pass
School of Design & Media	Nitec in: <ul style="list-style-type: none"> • Fashion Apparel Production & Design • Visual Effects 	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
	Nitec in: <ul style="list-style-type: none"> • Space Design (Architecture) • Space Design (Interior & Exhibition) 	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
	Nitec in Visual Communication	3 GCE 'N' Passes (Grade A-D or Grade 1-5) in English Language and two other subjects Or 2 GCE 'O' Grades (Grade 1-8) in any two subjects
	Nitec in: <ul style="list-style-type: none"> • Digital Animation • Product Design 	Completed GCE 'N' Level Or Completed GCE 'O' Level
School of Electronics & Info-comm Technology	Nitec in Digital Audio & Video Production	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
	Nitec in: <ul style="list-style-type: none"> • Electronics, Computer Networking & Communications • Infocomm Technology (previously known as Nitec in Info-Communications) 	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

	Technology (Networking & Systems Administration) <ul style="list-style-type: none"> • Microelectronics • Web Applications (previously known as <i>Nitec</i> in Social Media & Web Development) 	
	<i>Nitec</i> in Security Technology	Completed GCE 'N' Level Or Completed GCE 'O' Level
School of Engineering	<i>Nitec</i> in: <ul style="list-style-type: none"> • Aerospace Avionics • Aerospace Technology • Electrical Technology (Lighting & Sound) • Electrical Technology (Power & Control) 	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
	<i>Nitec</i> in: <ul style="list-style-type: none"> • Aerospace Machining Technology • Digital & Precision Engineering (NEW) • Rapid Transit Technology 	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
	<i>Nitec</i> in: <ul style="list-style-type: none"> • Automotive Technology (Heavy Vehicles) • Automotive Technology (Light Vehicles) • Facility Technology (Air-Conditioning & Refrigeration) • Facility Technology (Landscaping Services) 	Completed GCE 'N' Level Or Completed GCE 'O' Level

	<ul style="list-style-type: none"> • Facility Technology (Mechanical & Electrical Services) • Facility Technology (Vertical Transportation) • Mechanical Technology • Mechatronics 	
	Nitec in: <ul style="list-style-type: none"> • Facility Technology (Mechanical & Electrical Services) (3-years) • Mechanical Technology (3-years) 	GCE 'N' Technical students with 0 or 1 'N' Level Pass
School of Hospitality	Nitec in: <ul style="list-style-type: none"> • Food & Beverage Operations • Pastry & Baking • Western Culinary Arts 	3 GCE 'N' Passes (Grade A–D or Grade 1-5) in English Language and two other subjects Or 2 GCE 'O' Grades (Grade 1-8) in any two subjects
	Nitec in Asian Culinary Arts	Completed GCE 'N' Level Or Completed GCE 'O' Level

Annex C

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 • IT Applications Development • IT Systems & Networks • Games Art & Design • Cyber & Network Security 	<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 • International Logistics (previously known as <i>Higher Nitec</i> in 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