Not enough top students are choosing to study engineering, so one polytechnic has come up with a new course to attract the cream of the crop.

Ngee Ann Polytechnic’s (NP) new diploma in engineering science will focus on fundamental subjects such as physics and circuit analysis to prepare students for an engineering degree.

The course, jointly designed by the Nanyang Technological University (NTU), will also have marketing and financial modules, with a strong focus on collaborative learning to hone the students’ abilities to work in a group.

Students will also do their final-year projects at the NTU, spending two days a week there being supervised by its professors.

For a start, the course will take in 40 students next year and offer scholarships to 10 of them. There are also plans to attract students from the School of Science and Technology – a secondary school, which opened this year, that focuses on hands-on learning.

With this course, NP principal Chia Mia Chiang hopes to improve the quality of students studying engineering.

At the polytechnic, two-thirds of the students have an aggregate O-level score of 15 points and below. But among those in engineering, only one-third scored 15 points and below.

Mr Chia hopes to draw more top students into engineering so that at least half of them are those who scored 15 points and below. “Even though there are more academically stronger O-level students picking polytechnics now, more go into non-engineering subjects like business and mass communication rather than engineering. That is the trend we are hoping to address,” he said.

Having non-engineering modules in a course seems to be one of the ways of changing this trend, going by the success of a new diploma that NP introduced this year. The diploma course in engineering with business management, in which business modules make up a quarter of the curriculum, had a higher proportion of top students among its intake of 100 students, said Mr Chia.

“We are serious about trying to get more people into engineering. Ultimately, you need good engineers to underpin the economy,” he said.

To arrest the drop in the number of students going into engineering, various agencies have come together to encourage more students to take it up.

In 2004, a committee was set up by the five polytechnics to draw more students into the discipline as more of them were choosing “softer” courses like business and design.

This year, the Institution of Engineers organised a National Engineers Day to promote the profession and expose Secondary 2 and 3 students to engineering work through visits to worksites and process plants. At the exhibition, students saw the practical side of studying engineering – for instance, the end products designed by engineers.

Mr John Leong, deputy director of Temasek Polytechnic’s engineering school and a member of the joint-poly committee, said students study isolated subjects in school, like physics or chemistry, and do not see their relevance to real life.

“These subjects are theoretical and they don’t see how the subjects can finally evolve into an exciting engineering product, like an aeroplane. So we felt it was important to show them that it’s all engineering principles behind how a plane can fly,” he said.

More “exciting” engineering courses relating to aerospace and aviation have been introduced by the polytechnics in recent years and they have helped to attract more students to engineering, said Mrs Lay-Tan Siok Lie, chairman of the committee to promote engineering in the polytechnics. She is also the director of Temasek Polytechnic’s engineering school.

Singapore Polytechnic launched a common engineering programme this year for those undecided about their majors and introduced bond-free scholarships for engineering students.

These efforts have paid off, and there has been a gradual increase of first-choice applicants overall in all polytechnics in the last few years. In 2007, 13 per cent put engineering as their first choice. This year, 15 per cent did so.

“It’s not a quantum increase but we continue to press on. It’s a good sign. If we are not doing anything, it could go down,” said Mrs Lay-Tan.

janeng@sph.com.sg