Phase-out of the National Diploma in Chemical Engineering and Phase-in of the Diploma in Chemical Engineering

The Department of Chemical Engineering has replaced the existing National Diploma: Chemical Engineering course with a Diploma in Chemical Engineering course in 2018.

The purpose of introducing this new qualification is to align with the new Higher Education qualification sub-Framework (HEQSF) as Gazetted by the South African Department of Education on 2 August 2013. This is a requirement placed on all Higher Education institutions.

The new qualification will ensure that the curriculum offered at CPUT is aligned to qualifications offered at other institutions; not only nationally, but also internationally through the benchmarking process that took place during the development of the new qualification.

Pipeline students will be allowed a certain period to complete the National Diploma in Chemical Engineering, after which they will be articulated onto the new Diploma. Students who are returning to complete their qualification will be admitted on the current National Diploma (ND) qualification if it is still offered at the time of their return and if their outstanding subjects are still offered. If the qualification has been phased out, they will be articulated into the new Diploma (Dip) qualification.

### National Diploma in Chemical Engineering: Phase out plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Last intake for first year students&lt;br&gt;Students who still have S2 subjects outstanding in 2017 must firstly register for the failed subjects before registering for S2 subjects. Note that current S2 subjects in the ND will not be offered in 2018 due to the phase in of the new Dip.</td>
</tr>
<tr>
<td>2018</td>
<td>Mainstream&lt;br&gt;New Dip – 1st year&lt;br&gt;Current ND – 2nd year&lt;br&gt;Current ND – 3rd year&lt;br&gt;<strong>ECP</strong>&lt;br&gt;New Dip ECP – year 0&lt;br&gt;Current ND ECP - year 1&lt;br&gt;Current ND ECP – year 2&lt;br&gt;Current ND ECP – year 3&lt;br&gt;<strong>All 2017 first year students who have not progressed to ND year two will be transferred to the new Dip qualification and will repeat year one in 2018. These are students who failed more than 50% of their registered subjects during the year; students who still owe any of Mathematics 1, Chemistry 1 or Physics 1 in Semester 1; or Chemical Engineering Technology 2 or Engineering Physics in Semester 2 will not proceed to year 2 of the National Diploma.</strong></td>
</tr>
</tbody>
</table>
These are subjects which are pre-requisites for S3 subjects and will not be available in 2018.

National Diploma students who have passed all year two subjects will continue with the normal ND year three.

In-service training placement for students who started in 2016 that qualify will continue as normal.

Opportunities will be provided during the winter and summer schools for students to repeat failed subjects.

2019

<table>
<thead>
<tr>
<th>Mainstream</th>
<th>ECP</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Dip – 1st year</td>
<td>New Dip ECP – year 0</td>
</tr>
<tr>
<td>New Dip – 2nd year</td>
<td>New Dip ECP – year 1</td>
</tr>
<tr>
<td>Current ND – 3rd year (in-service)</td>
<td>Current ND ECP – year 2</td>
</tr>
<tr>
<td></td>
<td>Current ND ECP – year 3 (in-service training)</td>
</tr>
</tbody>
</table>

All students who qualify for in-service training will be assisted with placement in industry.

Selected subjects in Semesters 3 and 4 will be offered for students who have outstanding subjects. Main stream students who fail any of their ND year 2 (Semesters 3 & 4) subjects will be allowed to register and attend with the ND ECP year 2

ECP students who fail any of their year 1 subjects will move over to the new Diploma programme as no ECP year 1 subjects will be offered.

2020

<table>
<thead>
<tr>
<th>Mainstream</th>
<th>ECP</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Dip – 1st year</td>
<td>New Dip ECP – year 0</td>
</tr>
<tr>
<td>New Dip – 2nd year</td>
<td>New Dip ECP – year 1</td>
</tr>
<tr>
<td>New Dip – 3rd year</td>
<td>New Dip ECP – year 2</td>
</tr>
<tr>
<td></td>
<td>Current ND ECP – year 3 (in-service training)</td>
</tr>
</tbody>
</table>

In-service training will continue as required.

No subject in the National Diploma programme will be offered. Students who have outstanding subjects will need to register for the equivalent subject in the Diploma program and apply for internal recognition of the subject. (A list of subjects as their equivalent subjects are listed below)

2021

<table>
<thead>
<tr>
<th>Mainstream</th>
<th>ECP</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Dip – 1st year</td>
<td>New Dip ECP – year 0</td>
</tr>
<tr>
<td>New Dip – 2nd year</td>
<td>New Dip ECP – year 1</td>
</tr>
<tr>
<td>New Dip – 3rd year</td>
<td>New Dip ECP – year 2</td>
</tr>
<tr>
<td></td>
<td>Current ND ECP – year 3 (in-service training)</td>
</tr>
</tbody>
</table>

In-service training will continue as required for those who qualify. This will be the last formal year for IST.

Equivalent subjects: National Diploma and Diploma in Chemical Engineering

<table>
<thead>
<tr>
<th>Diploma in Chemical Engineering</th>
<th>National Diploma in Chemical Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Mathematics 1</td>
<td>Mathematics 1</td>
</tr>
<tr>
<td></td>
<td>Mathematics 2</td>
</tr>
<tr>
<td>Engineering Chemistry 1</td>
<td>Chemistry 1 - Theory</td>
</tr>
<tr>
<td></td>
<td>Chemistry 1 - Practical</td>
</tr>
<tr>
<td></td>
<td>Inorganic Chemistry 2</td>
</tr>
<tr>
<td></td>
<td>Physical Chemistry 2</td>
</tr>
<tr>
<td></td>
<td>Organic Chemistry 2</td>
</tr>
<tr>
<td>Engineering Physics 1</td>
<td>Physics 1</td>
</tr>
<tr>
<td>Communication Skills for Chemical Engineers</td>
<td>Communication Skills 1</td>
</tr>
</tbody>
</table>
| Computer Applications 1 | Computer Skills 1  
Drawings: Chemical Engineering |
|------------------------|----------------------------------|
| Chemical Engineering Technology I | Chemical Engineering Technology 2  
Chemical Process Technology  
Transfer Processes  
Chemical Engineering Thermodynamics  
(Subject will be structured such that the two subjects are covered in different semesters)  
Process Fluid Flow  
Complementary Studies B  
Chemical Engineering Technology 2  
Chemical Engineering Laboratory 2A  
Process Design I - Principles, Safety and Loss prevention  
Particle Technology  
Management and Entrepreneurial skills  
Chemical Engineering Laboratory 2B  
Process Control and Instrumentation  
Engineering Mathematics II  
Introduction to Chemical Reaction Engineering  
Separations Processes I - Unit Operations  
Investigative Projects  
Chemical Engineering Projects  
Bioprocess and Environmental Engineering  
Computer Applications 2 – Programming  
Process Design II - Equipment Design  
No comparable subject  
No comparable subject  
No comparable subject  
Bioprocess and Environmental Engineering  
Computer Applications 2 – Programming  |
| Chemical Process Industries 2  
Chemical Engineering Technology – Operations  
Thermodynamics: Chemical Engineering 3  
Thermodynamics: Applied 3  
Chemical Plant – Processing  
No comparable subject  
Chemical Engineering Technology 3 - Units  
No comparable subject  
Chemical Process Design Principles 3  
Chemical Plant 3: Equipment  
Management Skills 1: Structure  
Management Skills 1: Application  
No comparable subject  
Process Control 3  
Mathematics 2  
No comparable subject  
No comparable subject  
No comparable subject  
No comparable subject  
No comparable subject  |
| Engineering Mathematic  
Introduction to Chemical Reaction Engineering  
Separations Processes I - Unit Operations  
Investigative Projects  
Chemical Engineering Projects  
Bioprocess and Environmental Engineering  
Computer Applications 2 – Programming  
Process Design II - Equipment Design  
No comparable subject  
No comparable subject  
No comparable subject  |
| Mathematics II  
Introduction to Chemical Reaction Engineering  
Separations Processes I - Unit Operations  
Investigative Projects  
Chemical Engineering Projects  
Bioprocess and Environmental Engineering  
Computer Applications 2 – Programming  
Process Design II - Equipment Design  
No comparable subject  
No comparable subject  
No comparable subject  |
| No comparable subject  
Engineering Physics 2 ( will take this from Applied Sciences)  
In-Service Training 1  
In-Service Training 2 |

NB: Students will be expected to perform relevant practicals to the subjects that will be recognised. This is because laboratory practicals are not embed in the subjects in the new Diploma programme.

Students are requested to sign the attached acknowledgement sheet that they were informed of the Phase-out of the National Diploma in Chemical Engineering and Phase-in of the Diploma in Chemical Engineering. Acknowledgement forms to be submitted to the Departmental secretary by no later than 28 September 2018.
Yours sincerely

Prof. D.I.O. Ikhu-Omogbe, PhD. CEng. MIChemE
Head of Department
Acknowledgement of information regarding the Phase-out of the National Diploma in Chemical Engineering and Phase-in of the Diploma in Chemical Engineering.

I hereby acknowledge receipt of information regarding the Phase-out of the National Diploma in Chemical Engineering and Phase-in of the Diploma in Chemical Engineering.

I understand that if I have not progressed according to the letter, I will be transferred to the Diploma: Chemical Engineering qualification. I also understand that there are financial implications in moving to the new program.

Name: ___________________________  Student Number: ___________________________

Signature: ___________________________  Date: ___________________________