

<b>Module Title:</b>	Formulation Compounding
<b>Language of Instruction:</b>	English

<b>Credits:</b>	5
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<b>NFQ Level:</b>	6
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<b>Module Delivered In</b>	No Programmes
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<b>Teaching &amp; Learning Strategies:</b>	This module will be delivered via two one-hour lectures for fifteen weeks and one three-hour practical for ten weeks. Students may be required to access the material via College networks in advance of the class and practicals to encourage active learning. To consolidate lectures and practicals, students will normally be required to carry out assignments, give presentations and answer multiple choice questions. Group and peer learning will be facilitated during the preparation of assignments, presentations and practicals. Any course-related issue or questions that may arise will be discussed at lectures. Online demonstrations will illustrate the key concepts of the course and will be available throughout the year. Digital resources such as Youtube, Reusable learning objects and the National Digital Learning Repository will be used as practicable.
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<b>Module Aim:</b>	To give the student an insight into the requirements of formulation and compounding in the modern pharmacy.
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<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Discuss the procedures in drug production from synthesis to finished product manufacture.
LO2	Develop and test a range of products containing pharmaceutical actives.
LO3	Explain drug registration requirements.
LO4	Evaluate and discuss processes involved in drug manufacture and basic quality assurance

<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
Successful completion of year 1 or equivalent	

### Module Content & Assessment

<b>Indicative Content</b>
<b>Oral dosage route</b> Comminution, mixing, compression, granulation
<b>Insulins</b> Formulation, storage and labelling
<b>Sterile dosage forms</b> Formulation, manufacture and quality control. Clean rooms.
<b>Clinical trials</b> Clinical trials. Blind and double-blind trials, placebo effect
<b>Pulmonary medications</b> Formulation and manufacture
<b>Oral liquids</b> Composition, manufacture, stability evaluation
<b>Stability &amp; shelf-life</b> Aims, product specification, assay
<b>Modified drug release</b> Coatings and films, matrices and ion-exchangers
<b>Quality control</b> Evaluation of tablets, capsules, suppositories
<b>Other dosage forms</b> Ophthalmic preparations. Enemas
<b>Practical</b> Practicals will allow students to develop the required technical competencies, attitudes and behaviours as well as problem-solving abilities and group skills promote deep learning via investigation of a problem, application of prior knowledge and analysis of results thus generating new knowledge.

Assessment Breakdown	%
Continuous Assessment	10.00%
Practical	40.00%
End of Module Formal Examination	50.00%

<b>Special Regulation</b>
Students must achieve a minimum grade (35%) in both the practical/CA and final examination.

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	MCQ, assignments and practical work	1,2	10.00	n/a

No Project
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Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Continuous assessment will take the form of practical reports, and specific assignments	1,2	40.00	n/a

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	2 hour exam	1,3,4	50.00	End-of-Semester

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	30 Weeks per Stage	1.00
Laboratory	30 Weeks per Stage	1.00
Estimated Learner Hours	30 Weeks per Stage	1.67
Total Hours		110.00

