UNIVERSITY OF PRETORIA
FACULTY OF HEALTH SCIENCES
SCHOOL OF MEDICINE

SECTION 1: THE CURRICULUM
SECTION 2: ADMISSION AND SELECTION

FOR

THE PORTFOLIO COMMITTEE ON HEALTH
PARLIAMENT OF THE REPUBLIC OF SOUTH AFRICA

ERIC BUCH
DEAN
FACULTY OF HEALTH SCIENCES

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Exit-level outcomes
What capabilities constitute the overall competence?

Learning outcomes:
- Knowledge, skills and attitudes in order to promote health, prevent and treat illness and injury and provide appropriate care to individuals and communities.
- Disease will be treated and suffering palliated with empathy and within ethical norms. Effective management of health, ability to render service as member of a team, act as advocate for patients and communities.
- Good communication skills, critical, scientific thinking, a systems approach and an appreciation of the need for life-long learning.

Critical cross-field outcomes:
- identifying and solving problems in which responses display that responsible decisions using critical and creative thinking have been made;
- working effectively with others as a member of a team, group, organisation, community;
- organising and managing oneself and one`s activities responsibly and effectively;
- collecting, analysing, organising and critically evaluating information;
- communicating effectively using visual and/or language skills in the modes of oral and/or written persuasion;
- using science and technology effectively and critically, showing responsibility towards the environment and health of others;
- demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation;
- contributing to the full personal development of each learner and the social and economic development of the society at large, by making it the underlying intention of any programme of learning to make an individual aware of the importance of:
  - reflecting on and exploring a variety of strategies to learn more effectively;
  - participating as responsible citizens in the life of local, national and global communities;
  - being culturally and aesthetically sensitive across a range of social contexts;
  - exploring education and career opportunities.

Specific outcomes
In terms of knowledge, skills and attitudes; abilities students must demonstrate to be considered capable in terms of exit-level outcomes.

We make use of the Nijmegen classification of knowledge skills, competencies, which is part of the 1994 Blue print of training of doctors in the Netherlands. In our curriculum, each study guide states the level of knowledge, skills and competencies using this system.

Rather than focus on core knowledge as a concept, this classification system guides the lecturer and the student in assessing the level of knowledge, skill and competence necessary for that particular subject or disease. In effect, students are exposed to most if not all diseases, some with a level of knowledge of only recognizing the name to a level where the student must be able to completely and independently diagnose, assess and manage that specific disease.

Attitudes are part of the Golden Threads of the Curriculum (See special features of the Curriculum).

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All modules are supported by computer assisted learning. The University has a system called Click-UP on which materials relevant to each block are posted. A 24/7 IT lab with internet access is available to students as are computers in the library at medical school and in basic medical sciences and at Kalafong, Weskoppies and Witbank Hospitals. The library also plays a critical role in access to learning materials.

An extensive mentoring and tutoring system adds a critical element to the teaching and learning strategy. [*APPENDIX 5*]

Students are encouraged to supplement the formal programme with time spent in community activities and also in undertaking electives. Bursaries are available for some poor students who are deserving and who want to go overseas.

The Clinical Training Grant provided in the last few years by the Department of Higher Education has provided us with a unique "top up" opportunity to improve our facilities and equipment and to employ additional staff.

4	ASSESEMENT

Multiple methods of assessment are used. These include computer based testing and use of log books and other records of practice and reflection. Through extensive assessment of clinical ability and the wide use of a well-equipped skills laboratory, we assess all the competencies needed to ensure a doctor is produced who contribute to South Africa's health care from day 1 of their community service. [*APPENDIX 4*]

5	STUDENT SUPPORT

[*APPENDIX 6*]

The Faculty offers a very comprehensive student support system, starting with orientation and covering all elements of student life, including learning and study methods and psychological and material support. The Deputy Dean is directly involved in ensuring that weak students receive the necessary support tailored to their needs. Residence opportunities and bursaries are widely available to enable students to focus on their studies. A system of mentoring and tutoring guided by staff and implemented by students offers unique support, especially in the early years. The combination of the focus on excellence in teaching and in student support is behind our pass rate of more than 95% and the standard of our graduates – all our graduates have met our high standards; we do not adjust the standards to fit the student.

The student support programme is geared to ensuring that students from historically disadvantaged backgrounds, who have excelled to be where they are, are not further disadvantaged in their medical school years.

SECTION 2: ADMISSION CRITERIA AND SELECTION

An aim of the University of Pretoria is to be the institution of first choice for all South Africans and to support transformation and equity of our society. The selection process for medicine is structured to support these objectives. The **2011 graduating class**, reflecting the 2005 admission cohort were as follows:

ASIAN	Females	15
	Male	7
BLACK	Females	39
	Male	18
COLOURED	Female	4
	Male	3
WHITE	Female	71
	Male	43

The 2010 1st year class had 209 students.

We have grown to accept 240 students into the first year out of more than 4,000 applications. Plans are afoot to grow the class size to 350 students in response to the national demand for more doctors, pending support from the DoH and DoHET to meet the infrastructure, staffing and service learning platform needs.

The full **2012 admission and selection criteria** as formally approved by the University are presented as *APPENDIX 7*.

Applicants are first divided into one of ten categories see below. Although all applicants are considered in all categories, there are seventy places exclusively for historically disadvantaged (African and coloured) students (in italics in Box 1 below). This includes spaces for students who were originally not sufficiently strong in maths and science to meet the admission criteria and who are studying in the 4 year BSc programme. The top ten (interested) students at the end of the first year are admitted into first year medicine without having to complete the BSc. By agreement five places are kept for the SANDF and in line with commitments to SADC, fifteen places are kept for students from Mauritius, Botswana and Namibia. This may change as the latter two open their own medical schools.

The affirmative process for selection has reaped rich rewards, with the students managing their studies extremely well. Affording ring fenced opportunities to students who have done well in their first year of study, often their first opportunity to receive quality teaching affords an opportunity to students who would otherwise not have been selected, to study medicine.

MBChB Curriculum
School of Medicine
Faculty of Health Sciences
2011

Semester 1   **Semester 1**

	3/1 1	10/1 2	17/1 3	24/1 4	31/1 5	7/2 6	14/2 7	21/2 8	28/2 9	7/3 10	14/3 11	22/3 12	28/3 13	4/4 14	11/4 15	18/4 16	26/4 17	3/5 18	9/5 19	16/5 20	23/5 21	30/5 22	6/6 23	13/6 24	20/6 25	27/6 26	4/7 27

Row I

- Summer school (10/1 – 29/1)
- Orientation & Reg (31/1–11/2)
- Gen Physics PHY 131 (14/2)
- People and their Environment MGW 112
- Molecular & Cell Biology MLB 111
- Computer Literacy CIL 111
- Medical Terminology MTL 180 (21/4)
- Recess 22/4–2/5 (3/5)
- First course in Chemistry CMY 151
- Science & World Views FIL 155
- Academic Literacy EOT 110 (1/6)
- Examinations (6/6)
- Examinations (25/6)
- Sup exam (27/6 4/7)
- Recess (5/7–17/7)

Row II — Registration (5/1)

- BLOCK 3 — BOK 280: Homeostasis — Prof AM Joubert
  - [GNK 211] Intermediary metabolism
  - [GNK 212] Regulation & control
  - [GNK 213] Internal Milieu
- SA 4 GNK 288 Prof JH Meiring — Anatomy (Dissection)
- 2/4 – 10/4 Recess
- SA 4 GNK 288 Prof JH Meiring — Anatomy (Dissection)
- BLOCK 2 — BOK 284: Medicine / BOK 283: Dentistry — People and their Environment
  - [GNK222] Forensic Medicine — Prof G Saayman
  - [GNK 221] People in their Environment — Prof CW van Staden
- Recess 18/6 – 10/7
  - 1st Sem 1st Exam 27/6-1/7
  - BOK280: 1/7 AM
  - GPS280: 28/6
  - GNK288: 27/6 AM&PM
  - BOK284, 283: 29/6 AM
- LCP 280 Long Clin Attach Prog   GPS 280 Gen Procedural Skills
- SMO 211 CWvS

Row III — Registration (5/1)

- BLOCK 6 GNK 381 — Prof JA Ker — Heart & Blood Vessels
- BLOCK 7 GNK 383 — Prof JA Ker — Lungs & Chest
- SA 12 GNK386 — Dr D Reynders — Haematological Malign.
- BLOCK 8 BOK 380 Abd & Breast
- BLOCK 8 BOK 380 — Abdomen and Breast — Prof JHR Becker
  - [GNK 313] Abdomen & Abdominal complaints
  - [GNK 314] Mamma
- 1st Sem 1st Exam 27/6-1/7
  - GNK381: 27/6 AM
  - GNK383: 28/6 AM
  - GPS380: 29/6
  - BOK380: 30/6 AM
  - GNK386: 1/7 AM
- LCP 380 Longitudinal Clinical Attachment Program SMO 311 JAK   SMO 380
- LCP 380 Long Clin Attach Prog   SMO 380 JHRB   GPS 380 Gen Procedural Skills

Row IV (3/1)

- 1. Pediatric rotation
- 2. Gynaecology rotation
- 3. Internal Med rotation
- 4. Urology rotation
- 5. Neurology rotation
- 6. ENT rotation
- BLOCK 13 BOK482 Nervous system Prof CM Schutte
- BLOCK 10 GNK 481 Dr R Masekela — Disorders of childhood
- BLOCK 11 BOK 480
- [GNK 412] Genital conditions
- BLOCK 11 BOK 480 Prof BG Lindeque — Genito-urinary tract conditions
- [GNK 413] Urinary conditions
- LCP 480 Longitudinal Clinical Attachment Program
- LCP 480 Longitudinal Clinical Attachment Program   SMO 411 BGL
- Recess 18/6 to 10/7 No Exam

Row V — Registration (5/1)

- A. Surgery rotation
- B. Psychiatry rotation
- C. Fam Med rotation — BLOCK 16 GNK 582 Health and Health care Dr PT Kenny
- BLOCK 15 GNK 581 Psych & Soc dysfunc Prof JL Roos
- BLOCK 15 GNK 581 Psych & Soc dysfunction Prof JL Roos
- BLOCK 17 GNK 583 Trauma Proff TR Mokoena & JP Pretorius
- D1. Anaesthesiology Prof JFM Hugo
- D2. Forensic Medicine
- SMO 511/512 Prof JFM Hugo
- BLOCK 18 BOK 580 — Prof OBW Greeff Pharmacotherapy GNK 585 / Prof JLA Rantloane Anaesthesiology GNK 585
- BLOCK 17 GNK 583 Traumatology Prof TR Mokoena & Prof JP Pretorius
- HIV & Drugs
- 1st Sem 1st Exam 13-15/6
- 1st Sem 2nd Exam 20/6-24/6
- Second semester (SIC) starts 27/6
- LCP 580 Longitudinal Clinical Attachment Program

Row VI (3/1)

- Stud internship: Internal Medicine (7w) rotation GNK 683 (18/2 / 21/2)
- Student internship: Psychiatry (7w) rotation GNK 685 (8/4)
- SA13 GNK 689 EBM, DLM, Im Dr NM Oosthuizen (11/4   21/4   26/4)
- Stud internship: Neurology (3½ w) GNK 684; Internal Medicine (including Cardiology, Dermatology, Haematology) (3½ w) GNK 683 rotation (10/6)
- Recess 11-19/6
  - 1st Sem 1st Exam
- Second semester starts 27/6

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The Longitudinal Clinic Attachment Programme (L-CAP) for Undergraduate Medical Students at the University of Pretoria

Authors: JFM Hugo, Tessa S. Marcus et al

Content

1. Introduction

Tshwane, northern Ekhuruleni and Metsweding have a well-managed network of district clinics run by their respective municipalities and the Gauteng Department of Health. The main purpose of these clinics is to deliver primary health care to a burgeoning, largely urban population. However, they also have the potential to provide medical students with meaningful experiential learning that is essential to their education as doctors.

Experience already exists of this kind of service learning in the Faculty of Medicine at the University of Pretoria. Largely it has been found to be positive for both clinic staff and medical students. Medical student involvement in the clinics has been generally well received by both staff and patients, while students have found that their learning has grown exponentially by having to apply their knowledge in a real medical setting.

Experiential learning builds on the principles of Academic Service Learning (ASL). This means that students provide assistance to the service, learning while doing tasks that not only help them to understand the contents of the academic block or rotation that they are busy with, but that also give them other necessary skills that can make them function in the real world of medical care.

At present, a major weakness in the medical curriculum is that undergraduate student exposure to ambulatory care is sporadic, poorly integrated into the curriculum and lacks opportunities for students to experience continuity of

The review found that collectively the studies point to several important learning outcomes. Early experience motivates students in various ways (Sonia Littlewood et.al. 2005). It reminds them of their vocation, allows them to meet and interview patients and exposes them to doctors working in real settings. It gives them real insight into people's psychological and social circumstances, making them more empathetic to ill patients. It also helps "build self awareness, including the ability to recognise and respond to feelings of uncertainty and inadequacy" (ibid.388).

In terms of the academic learning benefits of experiential learning, the studies found these to be multiple. Students get the practical relevance of theory and it makes theory easier to learn. Also,

"(e)arly experience made students more confident in their knowledge, taught them things 'that could not be learned from books', brought diseases to life and made medical science more comprehensible. It provided a framework to explain clinical practice, showed students how professionals viewed their interactions with patients, and helped develop 'clinical ways of thinking'. It also taught students how people live (and) how their living conditions affect their health..." (ibid., 389)

Experiential learning helps them understand the healthcare delivery system as well as the importance of multidisciplinary working and good inter-professional communication.

It is also integrative across disciplines and fields of knowledge, helping students learn biomedical, behavioral and social sciences as well as the ethical dimensions of patient care.

Experiential learnings gives students basic practical clinical skills – understanding doctor-patient relationships, taking histories, performing simple physical examinations, delivering preventative health care.

The review concludes that
"the move to offer early experience... adds professional socialisation, the development of appropriate attitudes, interpersonal skills and study skills, and familiarity with the health care system, to the benefits of a grounding in basic science. In making the curriculum more socially responsive, it aligns medical education with contemporary concepts of professionalism, which emphasise doctors' accountability to the society they serve." (ibid., 390)

According to the review, the evidence on whether these positive benefits lead directly to better academic performance is unclear. The research into experiential learning uncovers "differences in students' ability to learn reflectively" and while several comparative studies suggested early experience improved exam performance, the benefits were inconsistent and not greater than in-hospital experience (ibid. 389).

The studies reviewed do not appear to have considered non-medical curriculae changes that may be required to make community based experiential and service learning meaningful. This is surprising given that health care professionals deal with diverse patient populations in many parts of the world. Working from the premise that medical students need a program which integrates language skills with other aspects of cultural knowledge if they are to be able to function in a multi-cultural,

"students not only improve their understanding of the course content, but also develop communication skills, teamwork, leadership, confidence and respect for peers that are vital to professionalism early in their medical careers."

Peer teaching is also a form of active social learning that increases independence, reflective judgment, non-authoritarianism and tolerance (Pascarella and Terenzini cited in IOM 2003:360).

2.3 About Partnerships

It is noteworthy that Dornan et.al.'s review (op.cit. 2005:30) found only one study that makes mention of a service delivery effect. In rural Oman, students measured blood pressure of a population for potential preventative and treatment benefits, delivered oral health, detected and treated trachoma and helped manage malnutrition. And perhaps because they did not find any, their review did not make reference to studies that reported on what it means to educate through partnerships and the challenges that this presents, both in terms of practical organisation and inter-institutional relationships.

Yet, an initiative to give students sustained experiential learning, such as that proposed by L-CAP programme or as described above, requires the active development of sustainable partnerships between a whole range of institutions and people.

Without going into the huge volume of work that explores the complexity of intra- and inter-institutional partnerships in the development literature, some issues are worth noting.

There is considerable tacit and research based evidence to provide experiential learning through inter-institutional partnerships requires hard work, as Jane Phillip's et al show in their qualitative analysis of the outcomes of the Undergraduate Medical Education for the 21st Century (UME-21). Their study of an experiential learning initiative between eight medical schools and 32 health care providers found that barriers to partnerships include differing priorities, resource pressures and limitations as well as changes in organisational structure and changes in personnel. Successful partnerships required networks of individual and institutional relationships, visible mutual benefit, active champions on all sides, and active and ongoing communication.

Developing and sustaining intra-institutional partnerships is also arduous work. The initiators of a multidisciplinary, ambulatory curriculum for a third year rotation at Case Western Reserve University, USA, for example, discovered that, amongst other things, they had to overcome differences in disciplinary priorities (what "must" and what "should" be taught), resources and preferences in teaching methods between internal medicine, family medicine and psychiatry- the initiative partners (Nicola Helm et.al. 2001).

More theoretical points on approach also can be usefully applied to a programme like L-CAP, which is premised on partnerships between academics within medical faculty, students, the district health system and its officials, service providers at the various clinics, health professionals who serve as supervisors/mentors, non-government organisations etc.

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Generally, these students did not consider the weaknesses in their social knowledge as subject matter for learning or something that they had to better understand to become good practitioners. This is not surprising given the educational system's emphasis on high performance in the "hard" sciences (maths, physical science, biology) that made their recent vocational choice decisions possible. However, what is problematic is that the bias against social scientific knowledge is largely reinforced by the undergraduate medical education curriculum which only weakly integrates and progresses it through the years.

Third year student reflections on their experiences in primary health care clinics and their surrounding communities confirm many of the findings reviewed in the literature. Generally they considered it to be a positive learning experience that enabled them to see the relevance of theory and apply their knowledge in context. It exposed them, first hand, to the interaction between doctors or nurses and patients. It made them aware of the district health care system, including variability in standards and functioning. It exposed them to the extent of HIV/AIDS and other common diseases as well as patient living conditions and how these can impact on disease management and health care uptake. It gave them a sense of both the worth and limits of their knowledge. And several students had the opportunity to practice their skills – taking histories, taking blood pressure, doing full examinations, etc.

Although not evident in the literature reviewed, for these students experiential learning gave them insight into the disjuncture between what is learnt or taught and what is practiced. Thus, for example, some observed that at times and in certain places patients were disrespected and doctor-patient confidentiality violated. Some also felt that appropriate procedures were not followed, with potentially detrimental consequence for both patients and health care providers.

Just as importantly, student reflections provided critical feedback on the limitations of the way the experiential learning exercise was organised. They point to the challenge of practicing medicine in a culturally diverse world without the necessary tools. In this regard, they mostly mention the need to know "an African language" and to be equipped with "interview skills". A few also have insight into the link between linguistic and cultural knowledge and how it impacts on their ability to provide health care.

Most students experienced the communication challenges associated with learning through partnerships. In some measure these related to technical hitches that delayed, diverted or reduced the learning exposure, like lost, late or no transport and late or absent academic mentors or clinic preceptors. More importantly, though, communication problems related to understanding and expectations. Because of communication failures students found that clinics were unprepared for them and doctors, nurses and they themselves were unclear of what was expected of them. As a consequence, a good number spent a lot of time waiting about with nothing to do, some felt like they were in the way, some felt like they had missed the opportunity to apply the knowledge they had, and a few regarded the experience as a complete waste of time.

These problems were compounded by the structural tension between learning in community and learning in the class room. Because lectures and field experience ran parallel, students felt like they lost out on 'real" learning because they had to miss

Linking academic learning to patient care.
Throughout their undergraduate studies students will see patients in primary care that present with problems or need medical interventions that they learn about in the classroom and see on the wards. This situates creates multiple opportunities to link academic learning with patient care.

Students will be able to directly contribute to prevention and health promotion work in a way that links to what they are being taught about in the lecture hall and that is real and meaningful. Thus, for example, they can screen patients at the clinic for visual acuity and glaucoma, participate in pap smear campaigns and screening for breast cancer, diabetes and hypertension screening, child development and growth, hearing assessment in children etc. Indeed, it is possible to consider having students manage a clinic's whole programme of patient information and health education.

Students can become the link between clinic staff, academy based specialists and patients. Often patients are seen at the clinic where a referral is considered, but the nurse or the doctor is not sure if it is necessary. In these instances, the student can see the patient with the doctor or nurse and present the patient to the registrar or consultant the next day. The opinion from the consultant can then be taken back to the clinic to inform the further management of the patient.

Equally, students can be required to present a patient from their previous day's clinic rotation. Not only will this enrich the academic learning of students and their peers, but it will also enhance the flow of information from primary care through to tertiary care and the medical school. And it can contribute to enhanced patient care on all levels. Actual patients can be referred to clinics for follow up with the knowledge that students will be informed about them and can give feedback to the consultant and the registrar.

Because of continuous and consistent community exposure, it is expected that students will experience and take part in ambulatory care and will be able to see the development and course of illness and treatment.

Students too will be able to contribute to the creation of new knowledge and a better understanding of patient needs by participating in research initiatives driven by L-CAP.

Learning through partnerships
The effectiveness of L-CAP critically depends on the strength of the partnerships that make it possible. These are multiple - between faculty across the participating disciplines, between faculty and students, between the medical faculty and participating clinics, between clinic staff and students, and between the initiators and provincial and local government officials in the Tshwane Health Department, the Tshwane Regional Health Office and the Gauteng Department of Health.

These relationships have to be created and then actively maintained. They require cooperation and compromise so that the initiative meets both its educational and service potential.

From an academic performance point of view, L-CAP is likely to positively affect curriculae, methods of teaching and methods of assessment to the benefit of the

HB measurement, do venesection, take histories, assist with clinical examinations, do counseling, etc.

Student Supervision
A lecturer from the School of Medicine will be allocated to each clinic to act as a mentor for the students and to liaise with the clinic management. All the lecturers in Family Medicine and some from Community Health will be involved. Lecturers from other disciplines will also be able to contribute, especially those with community impact e.g. Paediatrics, Obstetrics and Gyneacology and Internal Medicine. Lecturers from the basic sciences as well as the social sciences and humanities may also become active participants.
Most clinics have full time or visiting doctors who will be involved with the students. A dedicated mentor will be appointed for each clinic to spend 5 hours per day on all the clinic visit days in the clinic with the students.

Student group management
The 24 students working in a specific clinic will constitute a clinic group. Each clinic group will elect a representative from each year, and the four elected representatives will make up the clinic student committee. They will liaise between the student group and clinic management as well as between students and the academic mentor assigned to the clinic. They will also facilitate relations within the group.

L-CAP Design and Management
The Community Engagement Office in the Department of Family Medicine will drive the design of the programme. This will entail the following:

- Help negotiate agreements between relevant University of Pretoria, Tshwane and Gauteng government partners;
- Convene an expression of interest meeting within the Faculty of Medicine to identify potential academic partners;
- Establish an academic advisory group to guide curriculae content, supervision, assessment, site selection and organisational functioning issues
- Consult with the Undergraduate Curriculum Committee to integrate L-CAP into the planning of lecture blocks
- Cost and develop a budget for L-CAP
- Develop a detailed time-table with identified performance milestones for students and staff
- Convene an research, evaluation and development working group

In addition, the Community Engagement Office will be responsible for the overall day to day management of L-CAP.

5.   Conclusion

L-CAP is an exciting learning innovation that promises to significantly enhance undergraduate medical education in a way that is relevant to the needs of South African society. The success of the programme critically depends on several key factors. One is the creation of effective partnerships that meet individual and collective interests. Another is the creation of a curriculum that addresses the challenges of integrating medical theory and practice in a way that is not detrimental to the knowledge gained through experiential learning. The curriculum also needs to better integrate basic medicine with social science, including cultural linguistic understanding, given the diverse and unequal society in which future doctors are

Some provisional examples of Golden Threads outcomes

Golden Thread of Interpersonal Skills:

At the end of the 6 years the students should be able to:

a) Demonstrate an acceptable level of interpersonal skills in the doctor-patient relationship, as assessed in OSCE's and observation by seniors in real life in real life situations using standardized assessment templates.

b) Demonstrate an acceptable level of interpersonal skills in interaction with peers and other health care workers, as assessed in OSCE's and observation by seniors in real life in real life situations using standardized assessment templates.

c) Demonstrate an acceptable level of knowledge about basic psychotherapeutic intervention, as assessed in block tests and examinations.

Golden Thread of Group- and Team-work:

At the end of their 6th year students must have the skills to:

Work together successfully in groups with their fellow students, fellow health care workers, and social/community groups, as demonstrated by –

a) a series of group projects that are handed in for assessment

b) students' reflection on disputes that have arisen in the context of arrangement of student groups in clinical rotations

c) evaluation by their supervisors of their ability to work in a multidisciplinary team context during practical rotations.

Golden Thread of Professional Attitudes:

At the end of their 6th year students must have the skills to:

Display a professional attitude in their work in the health care context and in the university context, as demonstrated by –

a) a longitudinal peer evaluation of their attitude development over the six years

b) students' reflection on their development of a professional attitude

c) evaluation by their supervisors of students' professional attitudes.

Golden Thread of Research-based clinical practice:

At the end of their 6th year students must have the skills to –

a) do a basic research project

b) utilize research results for use in clinical practice.

THE CHARTER FOR PROFESSIONALISM

Preamble

This Charter guides the professional practice of both medical students and practitioners. Personal commitment to be informed of professional responsibilities and a desire to maintain professional behaviour, as well as high standards in medical practice are required. The Charter is therefore presented in the first person.

Evidence of professional competence, practice that demonstrates adherence to ethical values and personal attributes associated with professionalism should be demonstrated.

The Charter shows what is expected of a professional practitioner and also how professionalism is evident in conduct.

Professional competence

Concerning professional competence I am required to ..	This will be made evident by the following:
Demonstrate problem solving and critical thinking skills	Appropriate knowledge (anatomy, physiology, pathology, ethics, etc) and skills (interpersonal, communication, physical skills, etc.) are applied in the clinical assessment and the treatment of patients. An evidence-based approach is evident, considering the availability of resources. A management plan is formulated after negotiation with the patient, taking into account patient autonomy and confidentiality. A degree of uncertainty is accommodated in decision making.
Keep good clinical records	Evidence of patient management is recorded in the appropriate format and is updated regularly.
Demonstrate an epidemiological approach	The extent of a health care problem is determined. Interventions using existing resources are planned and implemented. Appropriate methodology is applied.
Be knowledgeable and apply relevant laws with special reference to: • Human rights • Relationships (collegial, patient and personal) • Unlawful conduct • Patient procedures (e.g. involuntary admission, etc.)	Knowledge of the South African Constitution and relevant laws is evident in clinical practice. Personal responsibility is evident in conduct.
Demonstrate knowledge and understanding of the principles of managed health care and health care systems in South Africa with special reference to the differences between the public and private sectors.	The principles of managed health care are upheld, including the principles of: • Fair distribution of resources • Social justice • Access for all, and • Fair dealings
Demonstrate a commitment to continuously improving knowledge and skills to improve professional competence	Evidence-based medicine is practiced. Practice is informed by current information and personal research.

INSTUTIONAL GOALS FOR UNDERGRADUATE TEACHING AND LEARNING, ASSESSMENT AND CONTINUING EDUCATION

GOAL 1: RESPONSIVE TO LOCAL CONTEXT AND NATIONAL AND INTERNATIONAL RECOGNITION.

1) Educational model

- The curriculum model is outcomes-based; problem-orientated; integrated; community-orientated; ethics/humanistic-based; case-based and self directed.
- Educational model aligned with HPCSA and other international professional bodies and accredited by professional bodies.
- Integrated community-orientated T,L&A.
- Adequate exposure to patients in a real world situation (hospitals, clinics).
- Strategies are in place to develop critical thinking and clinical reasoning skills of students.
- Integrated degree courses.
- The T,L & A is problem driven, evidence-based, self directed, including service- learning and self-assessment.
- The assessment of applied competence is continuous, formative, criterion-based and summative.

2) How do we know that we are delivering the intended 'product'/ relevance of curriculum/graduates for the job market and global citizens?

- Continuous strategic planning with all role- players, including research to identify relevant competencies.
- The programmes are externally audited by professional bodies on a five yearly basis.
- Determine the relevance of the curriculum according to the needs of the country.
- External examiners during exams also contribute to the relevance of the "product".
- Faculty has committees to manage the accreditation processes and to assess and reflect on the curriculum.

3) How do we move towards being internationally competitive and how do we continuously innovative?

- Faculty have many international students doing their electives in FACULTY.
- Faculty have contracts with Dutch universities and other international universities to train their students for specific periods.
- Faculty had some international evaluators in the past.
- Many staff members serve on international professional bodies.
- Programmes are evaluated against international standards and norms such as the WFME, GMC, GDC, ACEA, ADA etc.
- Students have an elective period that they may spend overseas or at other National Universities.

4) What and how do we want our students to learn?

- Teaching, learning and assessment focus on problem-solving; information gathering; , clinical reasoning, decision making, critical thinking, self-assessment and self-directed learning which acts as a basis to create a life-long learner.

5) How do we integrate inquiry and critical thinking into undergraduate l&t to ensure a viable pipeline for postgraduate study?

- Frequent use of questions during ward rounds, analysing problems with immediate feedback.

- Education innovation committees exist to manage the implementation of the educational policies and principles.
- Educational topics are presented by experts on a regular basis to staff.
- Study guides are continually evaluated for quality.
- Lecturers are trained on educational matters.
- Educational research is encouraged and facilitated through an educational research forum, part of a National Forum.
- Assessment committees evaluate the conformance of the assessment processes of modules against the assessment policies and principles of UP.
- Guidelines and regulations of the University are in place in faculty to deal with disciplinary and appeals procedures.
- Faculty has a remediation system in place (voluntary and compulsory) for identified underperforming students.
- Examination papers have a standardized front page on which external and internal examiners sign (quality control).
- Faculty board ratifies assessment policy and regulation decisions before sending it to Senate.
- Assessment regulations, procedures, plans, criteria etc. are explicitly stated in yearbook and / or study guides / block books.
- Student feedback on modules (blocks) and examinations are presented to undergraduate committees for action.

Rewarding of quality teaching and learning
- Joint appointees with exceptional T&L experience can be promoted to adjunct professor, a rewarding system unique for joint appointees.
- Faculty has a gala evening where quality is rewarded for publications in 6 categories.
- Student rewards:
  a) First to 5th year students have a once yearly prize-giving ceremony for academic excellence. Parents are invited to attend.
  b) Final year students have special prizes and is awarded at pledge ceremonies.
  c) All masters' degree (MSc and MMed) students who pass with distinction and all PhD students are acknowledged and congratulated at the gala evening.
  d) Certificate for education innovation of the Department of EI is awarded

Promotion of educational research
- Education office: faculty has a faculty education office staffed by an educational expert and a secretary.
- Education innovation: we have one person acting as   senior education advisor.
- Education research group: this group consists of interested lecturers from faculty.
- They are affiliated to a national body.
- They meet regularly.
- Publications have appeared.

Educational technology (classroom)
There are lecture halls in:
- BMW building
- HW Snyman building
- 1 lecture hall in Institute of Pathology
- Oral And Dental Hospital
- Klinikala (Kalafong Hospital)
- Weskoppies has a number of lecture halls which belong to the hospital and not UP.
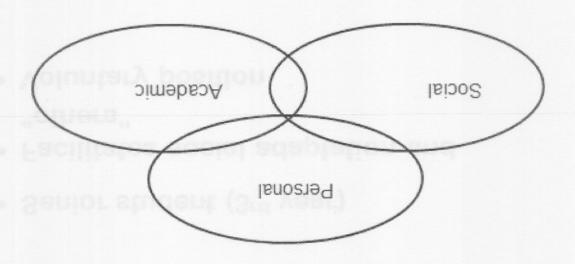
Lecture halls venues are equipped -with data projectors; overhead projection facilities.

Mentors:

- Senior student (3rd year)

- Facilitates social adaptation and "others"

- Voluntary position

A DIVERSIFIED AND INDIVIDUALISED ACADEMIC MENTORING SYSTEM FOR UNDERGRADUATE MEDICAL STUDENTS

ACADEMIC DEVELOPMENT AND SUPPORT FOR UNDERGRADUATE HEALTH SCIENCES STUDENTS

Student support in the Faculty of Health Sciences is based on the premise that students are "whole" people interacting with their environment and their lives cannot be fragmented into different compartments. Because academic contexts within the same university may vary, Sciences a **holistic integrated approach** is therefore followed with regard to student support. This means that the academic support of students is not separated from their personal growth and social support structures, as these may also have an effect on the learning that takes place.

The **academic record** of the health sciences students is somewhat different from that of students on the main campus and necessitates a unique support system. In most of the health sciences an integrated curriculum is in place, whereby traditional disciplines are integrated around themes and systems-organs. The curriculum also follows a block system. This means that students are following only one "course" or "module" (called a block) at a time for a certain period of time. (The length can range from 1-12 weeks). Furthermore, the same students take most of their classes together and the timetable is quite demanding. Students are not always on campus but are from time to time deployed at the scattered training sites of the extended campus that spans between Tembisa Hospital in the south, Jubilee Hospital (Hammanskraal) and the Moretele district in the north, Kalafong Hospital in the west and Witbank Hospital in the east. The working context of the students focuses on illness and death on the one hand (curative care) and community-based education (primary health care and preventive care) on the other. This makes intense emotional demands on students.

Some of the support structures are more fully developed for the medical programme, although most of the other programmes have similar systems in place. The examples that follow therefore focus more on the medical curriculum that on the other programmes.

Two important systems in the medical programme are the mentor system and the tutor system.
- The **mentor system** is an induction and socialization programme for students entering the Faculty of Health Sciences. The main purpose is the achievement of improved and successful adaptation to the demands of the academic and professional development.
- The **tutor system** has two limbs. The one is incorporated in the University of Pretoria system, whereby a senior student gives support to a junior student. The objectives are related to the factual discipline, block integration and study methods. The tutor system is implemented with varied success in different blocks. In some blocks there is also a different kind of tutor, who is referred to as a "contextual" tutor. This is a non-student (usually from the medical and allied professions) who supports students with regard to block integration and factual disciplines, but especially in applying knowledge to a particular context.

The medical curriculum also makes provision for a number of **integrated support opportunities**:
- In the first year there are *academic orientation* sessions, as well as a *special activity* when students arrive on the health sciences campus in the middle of their first year.

3.1 Success with the current ad hoc approach

Currently students experiencing serious academic difficulties are assigned an academic mentor on an ad hoc basis at the start of the last 18 months of student internship in Years 5 and 6. The support given in such circumstances is focused on intensive individual contact that has thus far yielded a great success rate. For example, after one semester of individualized mentoring, 17 students with great difficulties in Surgery all passed, two thirds with distinction. By implementing a more systematic and personalized approach, more students in need of academic mentoring may be identified and appropriately supported at an earlier stage of their studies. In the long run, this may contribute to a more cost-effective and sustainable support programme, a decrease in academic difficulties in the last two years of study, and the shortening of the throughput period for some students.

3.2 General difficulties associated with learning

Some students whose first language is not English and may not have been exposed to a variety of English practices at school or in the area they come from, initially experience linguistic difficulties and need more support in developing sufficient academic **language competence**. This problem is currently addressed by the University of Pretoria's Unit for Language Skills Development (ULSD) in the first year of study by means of special courses in academic language proficiency. An integrated approach is used by taking the content of the blocks and modules followed by the medical students as basis for improving academic language proficiency. There is a need to strengthen and support this initiative by complementary mentoring actions focusing on academic support in general.

The second problem derives from **learning approaches** that are not suitable to the study of Medicine. At school many learners are exposed to a culture of rote learning and mere memorization that promotes a surface approach to learning. The various disciplines in Medicine embrace a vast amount of material requiring appropriate learning techniques that will result in deep learning. Students depending almost exclusively on textbooks tend to reproduce the memorized material without adapting a deep or understanding approach to learning. Some of the main problems resulting from a surface learning approach can be summarized briefly as follows:

- Students experience a breakdown of memory in a situation of stress.
- Students fail to structure their knowledge in accordance with the focus required by questions in tests and examinations.
- Students are not able to apply their knowledge properly in clinical situations. This problem becomes acute at the conclusion of their studies during the last 18 months of internship. When students are required to apply their knowledge in real life situations where they need to diagnose and treat patients. In diagnosis they tend to superimpose their theoretical knowledge of the presentation of pathologies on conditions before listening and interacting with the patient properly. Thus the problems deriving both from their communication and learning approaches converge during the final year of study.

3.3 Changing demands of medical studies at various points in a student's academic career

Medical students have different emotional and academic support needs at different times during their six years of studies. In the first two years it is linked with the general adaptation to university life, new demands regarding self-directed learning and coping with vast volumes of information not encountered before. In their third year, when clinical work is intensified, and a more in-depth integration of theory and practice in the management of real patients is required, new academic demands related to the development of clinical reasoning skills need to be addressed. By the fifth and sixth years this demand is further intensified with the management of

DUTIES OF MENTORS:
- Freedom to initiate:
  - own individual meetings
  - group meetings
  - combined meetings
- Regular contact with mentees
- Support to mentees adaptation:
  - social
  - cultural
  - academic
- Monthly feedback meetings with supervisors
- Monthly reports on mentees
- Annual analyses/impression of the programme

EVALUATION BY TARGET GROUP (MENTEES):
- Structured questionnaire
- Mentor identified
- Scale of rating: 1 (poor) → 5 (excellent)
- Level of own participation / involvement
- Mentor   -   as role model
- as friend
- level of support
- Programme:
  - re own adaptation
  - re academic support
  - Desirability of programme
- Comments in General

MENTOR GROUPS:

MENTORS:
- 5 – 7 1st year students (mentees) of the Faculty of Health Sciences
- Uni-gender composition
- Cultural and home language diversity
- Common dwellings (university residences, or "day" students)

MENTEES:
- 1st year students of the Faculty of Health Sciences
- Voluntary participation for all students

4   INTERVENTION STRATEGIES
In order to ensure a well-planned implementation of the proposed academic mentoring programme, a phased approach is suggested in order to monitor the process thoroughly and make the necessary adaptations that will ensure greater success.

4.1   Anchor mentor
The appointment of a part-time academic mentor with experience in the academic support of medical students is envisaged. Depending on funds available, the programme will include an effort to develop at least one more academic mentor who will act as an "understudy" for the mentor and who in time may take over some of the responsibilities of the primary mentor.

COMMENDATIONS

a) Commitment of Faculty members to the curriculum

b) Commitment to staff assisting students at all levels

c) Introduction of Academic Service Learning as a valuable way to implement community engagement

d) Development of good language and communication skill innovations

e) Innovations in the curriculum include the golden threads, elective periods with special study modules, multidisciplinary symposia, academic service learning, progress tests, and an ethics breakaway

f) Review of the assessment process

g) The development of a more rigorous quality assurance process

Criteria

i) Basic criteria for all school leavers candidates

A valid National Senior Certificate with admission for degree purposes.
PLUS Subject and level requirements

Degree	APS	Group A		Group B	
		Two Languages	Mathematics	Physical Science	2 Other Subjects
MBChB	35	5 (60-69%) In English (at home language level or first additional language level) AND Another language (at home language level or first additional level)	5 (60-69%)	5 (60-69%)	5(60-69%)

a) For both the provisional and final selection at least a 5 (60%-69%) are required in the subjects listed in the table above in the final examination of Grade 11 or 12 respectively

b) In the spirit of gender equality, steps are being taken to ensure that male candidates also have the opportunity to be selected, therefore the first 25 males in the A1 category with the highest merit mark will be selected, after which the rest of the available places will be selected strictly according to merit.

c) To retain the provisional selection candidates' APS may not drop with more than 3 (three) APS points.

Explanation of APS (Admission Point Score) Achievement

Achievement	Achievement level	Marks %
7	Outstanding achievement	80-100%
6	Meritorious achievement	70-79%
5	Substantial achievement	60-69%
4	Adequate achievement	50-59%
3	Moderate achievement	40-49%
2	Elementary achievement	30-39%
1	Not achieved	0-29%

ii) Basic criteria for students with previous university exposure

A full Exemption certificate or National Senior Certificate with admission to degree studies
Passed mathematics and physical sciences matric level with at least 50% (HG)
or achievement level 4(50-59%) in matric or corrected at tertiary level

Students who do not fulfill all of the requirements will not be considered for medical study.

B3: **Designated groups category university students: Successful completion of 1-2 years or a degree (any faculty) at a University.**

Specifically a designated category is included to ensure access for these students on this level, in keeping with the realities of South African higher education access. Academic performance is the only criterion used. Full disclosure of university marks is required. Students who failed were granted repeated supplementary examinations or who were excluded from a course, will not be selected.

Candidates who were unsuccessful in category B1 will be considered on the same basis as mentioned above, during the third semester of the BFYP degree programme for <u>provisional</u> admission. Final selection takes place after completion of the fourth semester of the BFYP program.

C: <u>Students selected by other bodies</u>

C1: **SANDF (South African National Defence Force)**
No more than 5 (five) students are selected by the SANDF for medical studies provided that they fulfil all University criteria for selection.

C2: **SADC (Southern African Development Community)**
The School of Medicine accepts students from Namibia (5), Botswana (5) and Mauritius (5). Contracts regarding first curricula at the universities in these countries exist and guard the standards of the selection process. Selection is purely on academic merit. Successful students will only be accepted up to the maximum number stated. As stated in the contract, no credit will be given for modules passed at the home university.

The National Committee of Health Sciences Deans agreed to a SADC proposal that 100 students from SADC countries be accepted for training in medicine in South Africa every year. The number was divided so that each medical school can share in the load. To each medical school an allocation was made of designated countries and the home universities correspond directly with the host universities. Foreign students are not considered for selection if there are medical schools in their home countries.

iii) <u>Versatility</u>

As more students apply for admission to the study of medicine than the number that the School can accommodate, a selection process within the categories must take place to prepare a list of candidates selected for admission. All candidates from category A1 and A2 are required to submit a versatility questionnaire. Those with the highest versatility scores will be given preference in the A3 category during the selection process.

iv) <u>Transitional Measure</u>

As a transitional measure, applications of candidates who have successfully completed the final Grade 12 examinations before 2009 will be considered on the grounds of the 2008 selection regulations.