

Appendix A

Matrix illustrating how the objectives for the Master Programme in Clinical Pharmacy correspond to the objectives of the Higher Education Act and Higher Education Ordinance (Qualification Ordinance) and how the programme objectives correspond to course objectives and examination.

Courses: Evidence-Based Clinical Pharmaceutical Methods 12 credits (abbreviated “EBM”)

Applied Pharmacotherapy, Pharmacokinetics and Therapeutics 15 credits (abbreviated “PT/PK”)

Clinical Attachment and Service Development 18 credits (abbreviated “Clin”)

Research Project in Clinical Pharmacy 15 credits (abbreviated “Proj”)

Criteria for exams are found in “Programbeskrivning”, appendices I-S.

Corresponding general qualifications objectives are found at the end of the matrix.

Clinical pharmacy programme objectives	Corresponding general qualifications objectives	Example course specific objectives (course)	Examinations
demonstrate knowledge and understanding in the field of clinical pharmacy as well as insight into current research and development work	No 1	<p>Show knowledge of current research and development in the subject area [...] (Proj)</p> <p>Explain the structure of the healthcare system and interpret the laws, rules and constitutions that govern the pharmacist, the physician and the work of other health-care personnel (EBM)</p> <p>Critically review and compare clinical pharmaceutical studies [...] (EBM)</p> <p>Formulate and present a clinical pharmaceutical service, [...] discuss the service from an evidence-based perspective [...] (Clin)</p>	<p>Written project report (<i>criteria app P</i>)</p> <p>Mandatory lecture laws, rules and responsibility</p> <p>Student driven seminar health care system</p> <p>Mandatory seminars: article reviews</p> <p>Written assignment service development (<i>criteria app M</i>)</p> <p><i>In addition</i>, students are offered non-compulsory overviews “Clinical pharmacy in Sweden and globally” and “Clinical pharmacy research”</p>

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<p>demonstrate specialised knowledge in evidence based medicine, the function of drugs as well as patient safe, individualised and sustainable use of medicines</p>	<p>No 1</p>	<p>Describe the underlying pathophysiology, epidemiology, diagnosis, and complications for the therapeutic areas covered in the course (PT/PK)</p> <p>Explain the mechanisms of action, pharmacokinetic and pharmacodynamic principles and properties of the drugs included in the course, discuss the differences between the various drugs regarding these aspects as well as explain and evaluate interactions (PT/PK)</p> <p>Explain and discuss evidence-based treatment strategies and recommendations for the therapeutic areas covered in the course (PT/PK)</p> <p>Explain and discuss drug-related problems associated with the therapeutic areas and drugs included in the course (PT/PK)</p> <p>Select drug and dosing strategy according to evidence- based medicine (EBM) and pharmacokinetic and pharmacodynamic principles to an individual patient as well as motivate and justify this on the basis of EBM and considering the patient's conditions (PT/PK)</p> <p>Establish treatment goals and plan for initiation and withdrawal of drugs in an individual patient and motivate based on the patient's condition and the drug properties (PT/PK)</p> <p>Select a dosing strategy for special patient groups and individual patients by performing pharmacokinetic and farmakodynamic calculations (PT/PK)</p> <p>Identify patient specific drug-related problems from relevant sources, suggest interventions and treatment aims and argue for these based on evidence-based medicine and patient related factors (Clin)</p> <p>Apply general knowledge within a diagnosis area on a specific patient (Clin)</p> <p>Describe a specialised medical field and discuss this from a evidence-based perspective and from a patient perspective (Clin)</p>	<p>Written exam pharmacotherapy and PK/PD (<i>criteria app S</i>)</p> <ul style="list-style-type: none"> - EBM - Function of drugs (PK, PD) - Individualisation <p>Mandatory student driven EBM and pharmacotherapy seminars</p> <ul style="list-style-type: none"> - EBM - Individualisation <p>Written home exam PK calculations</p> <p>Written assignment PK calculation based on patient case</p> <ul style="list-style-type: none"> - Function of drugs (PK) - Individualisation <p>Written assignment patient case and drug review (<i>criteria app J and K</i>)</p> <ul style="list-style-type: none"> - EBM - Funktion of drugs (PK, PD) - Individualisation - Sustainable use of medicines <p>Oral presentation specialisation (<i>criteria app L</i>)</p> <ul style="list-style-type: none"> - EBM - Function of drugs - Individualisation
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<p>demonstrate specialised methodological knowledge in clinical pharmacy.</p>	<p>No 2</p>	<p>Handle different methods and tools to practice clinical pharmacy (EBM)</p> <p>Show good knowledge of methods in the subject area of the project (Proj)</p> <p>Carry out searches in databases and identify relevant and scientific information about drugs (EBM)</p> <p>Apply appropriate methods and tools to practice clinical pharmacy [...] (Clin)</p>	<p>Mandatory workshop series: clinical pharmacy practice methods and tools</p> <p>Mandatory practice OSCE (Objective Structured Clinical Examination) with feedback (<i>criteria app N and O</i>)</p> <p>Mandatory seminars: article reviews</p> <p>Mandatory workshop series: methods in clinical pharmacy research</p> <p>Written assignment: Evidence review and evaluation (<i>criteria app I</i>)</p> <p>Written project report (<i>criteria app P</i>)</p> <p>Oral examination OSCE (<i>criteria app N and O</i>)</p>
<p>demonstrate the ability to integrate knowledge and analyse, assess and deal with complex drug related phenomena and issues as well as healthcare related situations, even with limited information</p>	<p>No 3</p>	<p>Perform a medication review in an individual patient by identifying and evaluating drug -related problems, set treatment goals and select and justify actions to solve the problems (PT/PK)</p> <p>Work systematically to identify, solve and prevent drug-related problems in individual patients and in the health care setting (Clin)</p> <p>Identify patient specific drug-related problems from relevant sources, suggest interventions and treatment aims as well as argue for these based on evidence-based medicine and patient related factors (Clin)</p> <p>Critically review and compare clinical pharmaceutical studies, systematic compilations and meta-analyses and evaluate the place of a drug in the treatment based on evidence-based medicine (EBM)</p> <p>Be able to search, evaluate and analyse information critically as well as integrate and compile this at a scientific level (Proj)</p>	<p>Written exam pharmacotherapy and PK/PD (<i>criteria app S</i>)</p> <p>Written assignment patient case and drug review (<i>criteria app J and K</i>)</p> <p>Mandatory clinical attachment with assessment recommendation by supervisor (<i>assessment criteria app G</i>)</p> <p>Written assignment: Evidence review and evaluation (<i>criteria app I</i>)</p> <p>Written project report (<i>criteria app P</i>)</p>

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demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames	No 4	<p>Be able to identify an appropriate, delimited and feasible project that brings new knowledge (Proj)</p> <p>After discussion with the supervisor be able to formulate a research question and independently, during given time frames, be able to plan and carry out the project (Proj)</p> <p>Work systematically to identify, solve and prevent drug-related problems in individual patients and in the health care setting (Clin)</p> <p>Formulate and present a clinical pharmaceutical service, discuss the feasibility [...] (Clin)</p>	<p>Written project report (<i>criteria app P</i>)</p> <p>Mandatory clinical attachment with assessment recommendation by supervisor (<i>assessment criteria app G</i>)</p> <p>Written assignment service development (<i>criteria app M</i>)</p>
demonstrate the ability in speech and writing to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences	No 5	<p>Produce oral and written reports with correct language clearly which summarise relevant contents (EBM, Clin)</p> <p>Communicate with patients and prescribers in an empathic and efficient way and adapt the information to given circumstances (Clin)</p> <p>Be able to present the work both orally and in writing in good Swedish or English (Proj)</p> <p>Be able to discuss results and conclusions, including in relation to research in the pharmaceutical field (Proj)</p>	<p>Written assignment patient case and drug review (<i>criteria app J and K</i>)</p> <p>Written assignment service development (<i>criteria app M</i>)</p> <p>Oral examination OSCE (<i>criteria app N and O</i>)</p> <p>Oral presentation specialisation (<i>criteria app L</i>)</p> <p>Written assignment: Evidence review and evaluation (<i>criteria app I</i>)</p> <p>Written project report (<i>criteria app P</i>)</p> <p>Oral presentation (<i>criteria app Q</i>)</p> <p>Oral opposition (<i>criteria app R</i>)</p>

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demonstrate the skills required for participation in research and development work in the field of clinical pharmacy and consultative work with pharmaceutical care in a healthcare team	No 6	<p>Show good knowledge of methods in the subject area of the project (Proj)</p> <p>Be able to search, evaluate and analyse information critically as well as integrate and compile this at a scientific level (Proj)</p> <p>Be able to identify an appropriate, delimited and feasible project that brings new knowledge (Proj)</p> <p>After discussion with the supervisor be able to formulate a research question and independently, during given time frames, be able to plan and carry out the project (Proj)</p> <p>Formulate and present a clinical pharmaceutical service, discuss the feasibility, discuss the service from an evidence-based perspective and argue for its use (Clin)</p> <p>Communicate with patients and prescribers in an empathic and efficient way and adapt the information to given circumstances (Clin)</p> <p>Apply appropriate methods and tools to practice clinical pharmacy and work professionally, independently and consultative with pharmaceutical care in the patient care team (Clin)</p> <p>Work systematically to identify, solve and prevent drug-related problems in individual patients and in the health care setting (Clin)</p>	<p>Written project report (<i>criteria app P</i>)</p> <p>Written assignment service development (<i>criteria app M</i>)</p> <p>Mandatory clinical attachment with assessment recommendation by supervisor (<i>assessment criteria app G</i>)</p> <p>Oral examination OSCE (<i>criteria app N and O</i>)</p> <p>Mandatory interprofessional workshop</p>
demonstrate the ability to efficiently communicate with patients and colleagues in a healthcare team	N/A (Additional objective)	<p>Communicate with patients and prescribers in an empathic and efficient way and adapt the information to given circumstances (Clin)</p>	<p>Oral examination OSCE (<i>criteria app N and O</i>)</p> <p>Mandatory clinical attachment with assessment recommendation by supervisor (<i>assessment criteria app G</i>)</p>
demonstrate the ability to an empathic, professional and scientific approach	N/A (Additional objective)	<p>Show [...] knowledge of what a scientific approach implies (Proj)</p> <p>Communicate with patients and prescribers in an empathic and efficient way and adapt the information to given circumstances (Clin)</p> <p>[...] work professionally, independently and consultative with pharmaceutical care in the patient care team (Clin)</p>	<p>Written project report (<i>criteria app P</i>)</p> <p>Oral examination OSCE (<i>criteria app N and O</i>)</p> <p>Mandatory clinical attachment with assessment recommendation by supervisor (<i>assessment criteria app G</i>)</p> <p>Written assignment reflective practice and mandatory reflective seminar</p>

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demonstrate the ability to make assessments in the field of clinical pharmacy informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work	No 7	<p>Explain the structure of the healthcare and interpret the laws, rules and constitutions that govern the pharmacist, the physician and the work of other health-care personnel (EBM)</p> <p>Discuss basic ethical concepts and ways of thinking relevant for clinical pharmacy (EBM)</p> <p>Be able to identify ethical aspects on own research and development work (Proj)</p>	<p>Mandatory lecture laws, rules and responsibility</p> <p>Mandatory ethics lecture</p> <p>Mandatory student driven seminar based on ethical dilemmas from the clinical attachment</p> <p>Mandatory written project plan with ethical reflection</p> <p>Written project report (<i>criteria app P</i>)</p>
demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used	No 8	<p>Be able to search, evaluate and analyse information critically as well as integrate and compile this at a scientific level (Proj)</p> <p>Explain the structure of the healthcare system and interpret the laws, rules and constitutions that govern the pharmacist, the physician and the work of other health-care personnel (EBM)</p> <p><i>Examples of individualizing therapy where EBM and recommendations is not always possible to follow and specialized fields where evidence is lacking ("limitations of research"):</i></p> <p>Select drug and dosing strategy according to evidence- based medicine (EBM) and pharmacokinetic and pharmacodynamic principles to an individual patient as well as motivate and justify this on the basis of EBM and considering the patient's conditions (PT/PK)</p> <p>Identify patient specific drug-related problems from relevant sources, suggest interventions and treatment aims and argue for these based on evidence-based medicine and patient related factors (Clin)</p> <p>Describe a specialised medical field and discuss this from a evidence-based perspective and from a patient perspective (Clin)</p>	<p>Written project report (<i>criteria app P</i>)</p> <p>Mandatory lecture laws, rules and responsibility (including regulation and <i>responsibility</i> related to evidence-based practice)</p> <p>Written exam pharmacotherapy and PK/PD (<i>criteria app S</i>)</p> <p>Written assignment patient case and drug review (<i>criteria app J and K</i>)</p> <p>Oral presentation specialisation (<i>criteria app L</i>)</p>

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<p>demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning</p>	<p>No 9</p>	<p>[...] work professionally, independently and consultative with pharmaceutical care in the patient care team (Clin)</p> <p>Demonstrate the ability to identify the need of additional research in the subject area (Proj)</p> <p>Be able to search, evaluate and analyse information critically as well as integrate and compile this at a scientific level (Proj)</p> <p>Formulate and present a clinical pharmaceutical service, discuss the feasibility, discuss the service from an evidence-based perspective and argue for its use (Clin)</p>	<p>Written assignment reflective practice and mandatory reflective seminar</p> <p>Mandatory written reflection on own development after half time assessment during clinical attachment</p> <p>Written project report (<i>criteria app P</i>)</p> <p>Written assignment service development (<i>criteria app M</i>)</p>
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GENERAL QUALIFICATIONS

Degree of Master (60 credits) [Magisterexamen]

Outcomes

Knowledge and understanding

For a Degree of Master (60 credits) the student shall

1. demonstrate knowledge and understanding in the main field of study, including both an overview of the field and specialised knowledge in certain areas of the field as well as insight into current research and development work, and
2. demonstrate specialised methodological knowledge in the main field of study.

Competence and skills

For a Degree of Master (60 credits) the student shall

3. demonstrate the ability to integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
4. demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames
5. demonstrate the ability in speech and writing to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
6. demonstrate the skills required for participation in research and development work or employment in some other qualified capacity.

Judgement and approach

For a Degree of Master (60 credits) the student shall

7. demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
8. demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
9. demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Alumni survey: summary report

The survey was sent to alumni who started the programme during the period 2010–2015.

The response rate was 37/63 (59%)

The respondents were evenly distributed over the studied time frame (starting year), as shown below



Completion of programme

78% of the respondents had completed the full programme, 5 individuals had 1–2 assignments/exams left and 3 individuals had more than 2 assignments/exams left to complete.

Career after the programme

73% of the respondents got their first job before they finished the programme and 19% had a job they returned to after their studies. One individual states that it took more than 6 months to get a job and one individual has not yet got a job.

81% of the respondents are now employed in the healthcare sector (incl. hospital pharmacies), 11% now work at community or dose-dispensing pharmacies.

65% of the respondents spend 75% or more of their working time on direct patient care.

73% of the respondents state that they spend less than 25% of their working time on service development and 92% spend less than 25% of their working time on research.

5 individuals have positions with personnel responsibility (responsibility for at least one employee). 84% of the respondents have no personnel responsibility.

An analysis of the free text answers in which the respondents describe their work tasks shows that of those that report clinical work, the majority work in a hospital setting, though many also do some work in primary care, often medication reviews at nursing homes or similar facilities. Many report a mix of different tasks, with main functions including medication reconciliation and medication reviews, but also training of staff, medication management on wards and in primary care, and systemic work on improving patient safety and medication use at hospital or regional level.

The respondents think that their education level matches their work tasks well; see the distribution below (option 1= I am over-qualified for my work tasks, option 3 = my work tasks match my education level, option 5 = I am under-qualified for my work tasks).

Appendix B



Opinions about the programme

The two questions 1) “to what degree do you think the programme has given you the opportunity to develop the following skills and knowledge?” and 2) “to what degree are you using the following skills and knowledge in your current work?” combine to illustrate whether the programme contents are relevant and whether the needs of practising clinical pharmacists are met.

The questions are scored on a scale from 1 (to a very low degree) to 5 (to a very high degree)

Skill/knowledge	1) Developed during programme Average score (SD)	2) Use in current work Average score (SD)
Perform direct patient care in healthcare setting	4.6 (0.6)	4.5 (1.0)
Work together with other professions	4.1 (0.8)	4.6 (0.6)
Critically appraise information	4.4 (0.6)	4.3 (0.6)
Give reasons and arguments for actions	4.1 (0.9)	4.3 (0.9)
Independently solve problems	4.3 (0.7)	4.6 (0.8)
Read and understand scientific texts	4.3 (0.7)	3.9 (1.1)
Apply scientific methods	4.0 (0.8)	3.7 (1.1)
Explain subject-specific questions to persons without specialist knowledge	3.7 (0.8)	4.1 (0.8)
Make oral presentations	4.2 (0.7)	3.8 (1.3)
Make written presentations	4.3 (0.7)	3.3 (1.3)

The respondents consider that the programme tends somewhat more towards theoretical rather than practical contents and 95% state they are quite satisfied or very satisfied with the balance.

As shown below, 95% of the respondents state that they are quite satisfied or very satisfied with the programme.



Strengths of the Master Programme in Clinical Pharmacy

An analysis of the free text answers shows that most answers include the aspect of relevant preparation for clinical practice through clinical placement periods and interaction with practising clinical pharmacists (supervisors and teachers). Many respondents highlight the theoretical contents, mainly within pharmacotherapy and EBM, as providing a good and necessary basis for clinical practice. Some respondents also highlight that the programme provides a good knowledge of methods and tools such as information-seeking and critical appraisal. Some highlight the increased ability to work independently and with problem-solving.

Weaknesses of the Master Programme in Clinical Pharmacy

An analysis of the free text answers shows that opinions differ much more than for the previous question regarding strengths. It is therefore harder to draw clear conclusions. However, a number of respondents highlight that the requirements for passing the courses are too high and that less attention could be paid to details. Another aspect mentioned by a number of respondents is that they experienced time pressure during their studies. They also highlight a wish for more complex discussions about clinical situations with clinically active physicians and pharmacists. Some mention an unnecessarily high degree of knowledge required to be memorised.

Table. Student retention and throughput, 2010–2015.

Courses:

Evidence-Based Clinical Pharmaceutical Methods, 12 credits (abbreviated “EBM”)

Applied Pharmacotherapy, Pharmacokinetics and Therapeutics, 15 credits (abbreviated “PT/PK”)

Clinical Attachment and Service Development, 18 credits (abbreviated “Clin”)

Research Project in Clinical Pharmacy, 15 credits (abbreviated “Proj”)

Year (full/part time combined)	No of students enrolled	No (%) of students completed EBM	No (%) of students completed PT/PK	No (%) of students completed Clin	No (%) of students completed Proj	No (%) of students fully completed
2015	14	11 (79)	11 (79)	10 (71)	5 (56) ¹	5 (56) ¹
2014	13	11 (85)	11 (85)	10 (77)	10 (77)	10 (77)
2013	12	10 (83)	10 (83)	9 (75)	10 (83)	9 (75)
2012	10	8 (80)	6 (60)	7 (70)	7 (70)	7 (70)
2011	11	7 (63)	8 (73)	9 (82)	8 (73)	7 (63)
2010	10	10 (100)	9 (90)	10 (100)	10 (100)	9 (90)
2010-2015	71	57 (80)	55 (77)	55 (77)	50 (76)	47 (66)

¹ Actual no of students enrolled 9, 5 part-time students still in education

Comments:

The number of students enrolled in the programme has steadily increased over the last 5 years. In total, the student throughput ranges from 76% to 80% for the four individual courses included in the programme over the years 2010–2015. The throughput appears to be fairly constant over time and courses. Overall, the lowest pass rate is observed for the last course (“Proj”), which is a reflection of the fact that some of the students have dropped out of the programme before starting this course, rather than a sign that the course is particularly difficult to pass.

Appendix D

Academic degree/title	Professional merits/competence within clinical pharmacy	Employment Uppsala University (% full time)	Teaching activity, clinical pharmacy (% full time)	Research activity (% full time)	Name	Comment
Senior lecturer, Assistant professor, PhD, MSc Pharm	Clinical pharmaco-kineticist (1998-2002), Hospital pharmacist (2002-2011), PhD student (2003-2011)	100%	50%	50%	Elisabet Nielsen (EN)	Director of studies
Lecturer, Excellent teacher MSc Pharm	Clinical pharmacist (2007-2015), Research volunteer UCSF, USA (2008-2009)	100%	50%	10%	Maria Swartling (MS)	Director of studies
Professor, PhD, MSc Pharm	Developed pharmacotherapy as a subject area, taught and led pharmacotherapy 1985 – 1999 as a lecturer, after 1999 individual lectures. Been driving implementation of clinical pharmacy as a subject area at Uppsala Univ.	100%	4%		Margareta Hammarlund Udenaes (MHU)	Head of teaching organization within pharmacokinetics, pharmacotherapy and clinical pharmacy.
Senior lecturer, Assistant professor, PhD, MSc Pharm	Teacher in pharmacokinetics at the Pharmacy programmes at Uppsala University (2010-)	100%	5%	0	Jörgen Bengtsson (JB)	Director of studies in pharmacokinetics. Working with pedagogic development within the disciplinary domain of medicine and pharmacy.
Internal resources, Lecturers in pharmacotherapy, and PhD students	41 hrs, distributed on 6-7 individuals (2 Males, 3 Females, 1-2 PhD students)					
External resources, Clinical pharmacist	22 hrs, distributed on 7 individuals (3 Male, 4 Female)					
External resources, Physician in clinical practice	12 hrs, distributed on 5 individuals (2 Male, 3 Female)					
Supervision during clinical placement	26 days (supervised by clinical pharmacist), 10 days (supervised by nurse or other healthcare professional), 10 weeks project work (supervised by clinical pharmacist)					



STUDENTBAROMETER - PILOT

**Magisterprogram i klinisk farmaci (60 hp)**

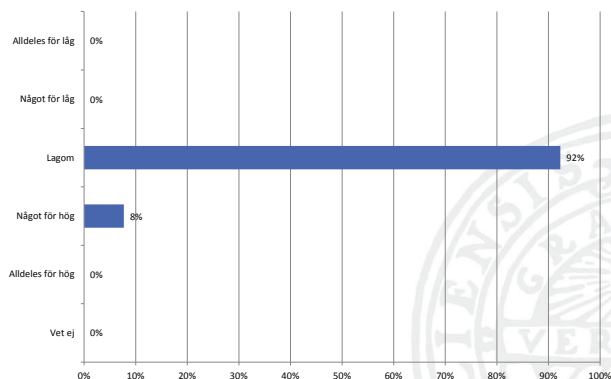
Antal respondenter:	13
Svarsfrekvens:	68 %
År:	2017



STUDENTBAROMETER - PILOT



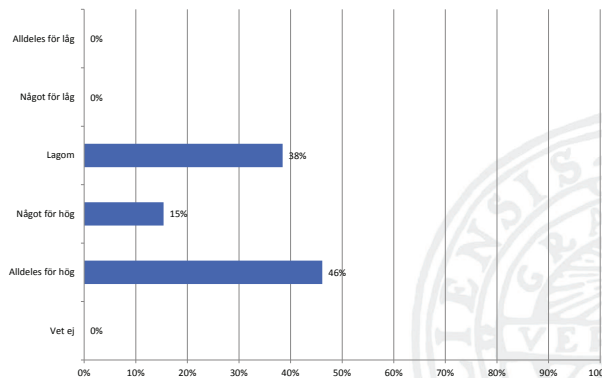
Fråga 12.1 12. Hur bedömer du kravnivån hittills på ditt program/i ditt ämne avseende: Studiernas svårighetsgrad?



STUDENTBAROMETER - PILOT



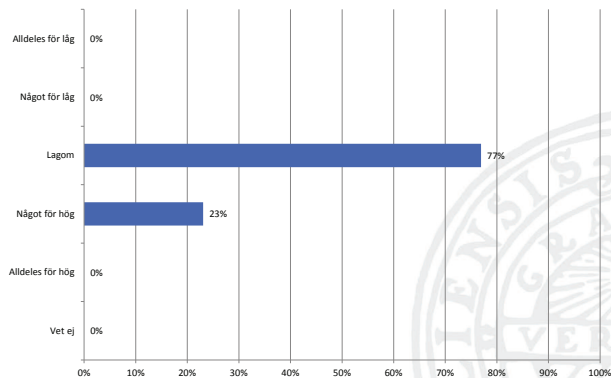
Fråga 12.2 12. Hur bedömer du kravnivån hittills på ditt program/i ditt ämne avseende: Arbetsbelastning?



STUDENTBAROMETER - PILOT



Fråga 12.3 12. Hur bedömer du kravnivån hittills på ditt program/i ditt ämne avseende: Eget ansvarstagande?

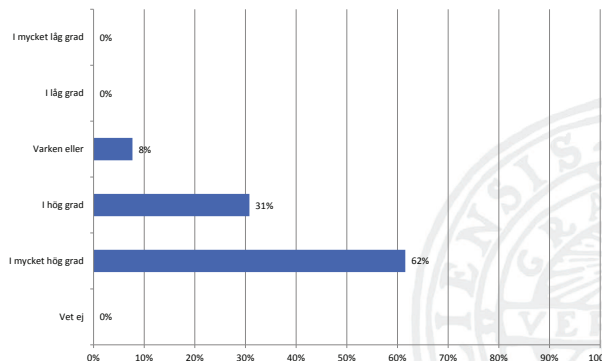


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Fråga 13

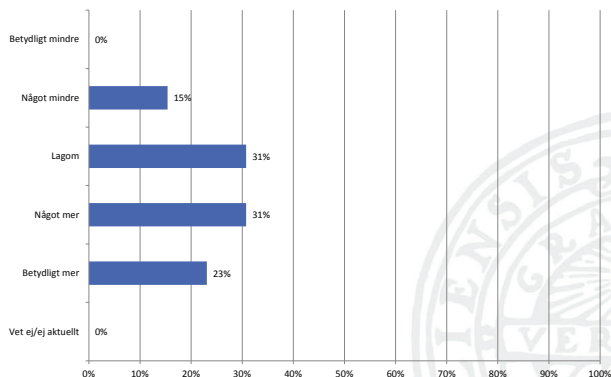
13. I vilken grad anser du att studierna på ditt program/i ditt ämne hittills har varit intellektuellt utmanande?

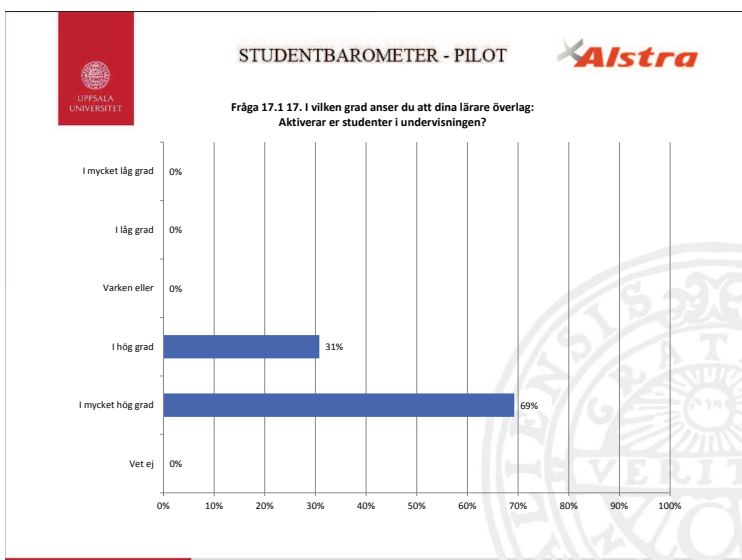
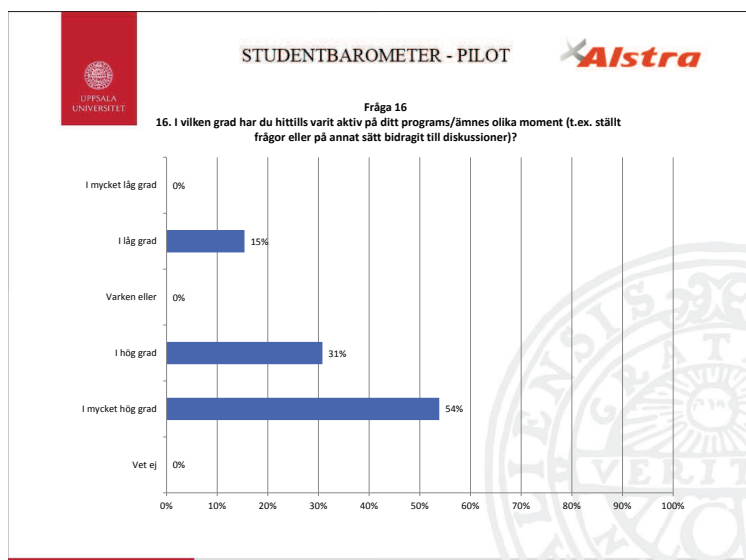
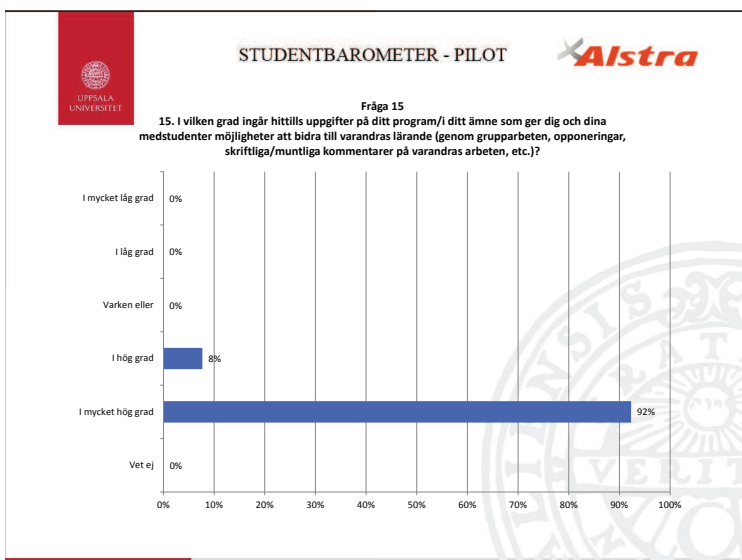
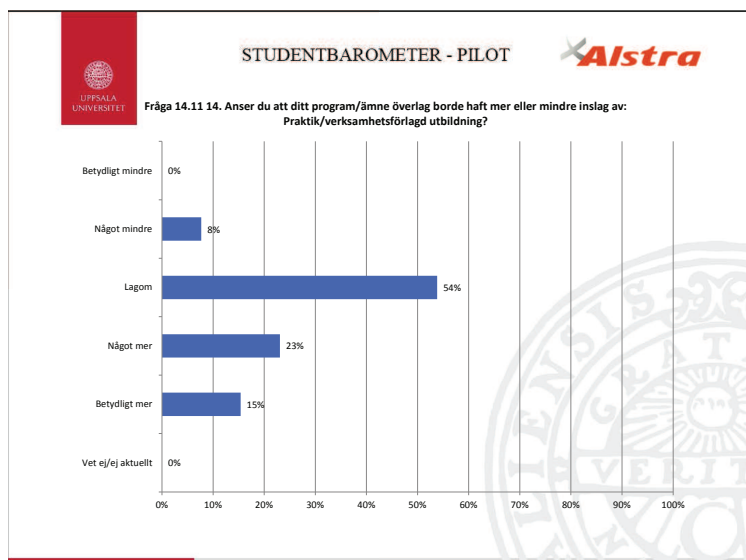
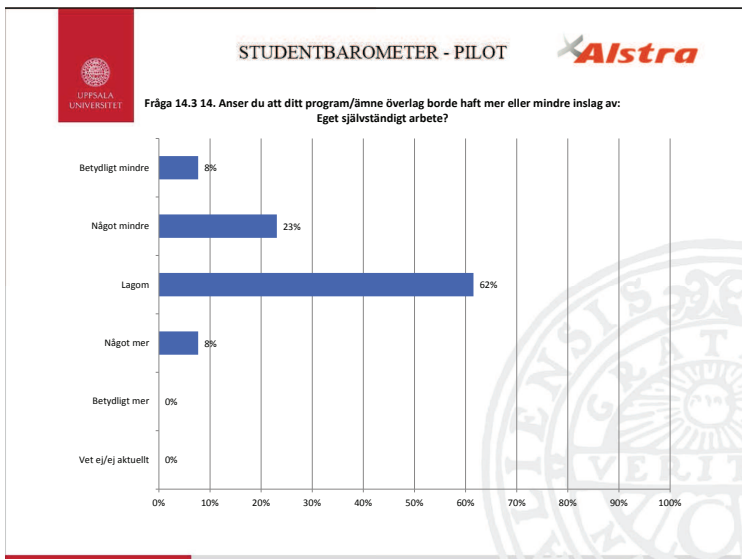
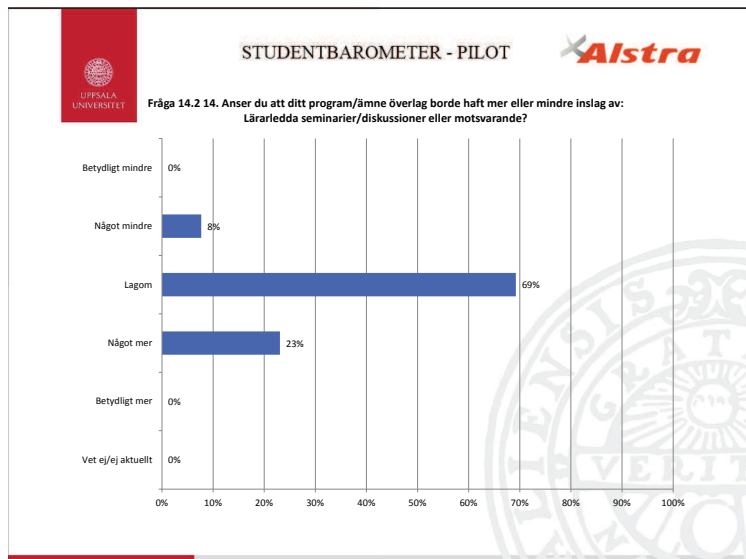


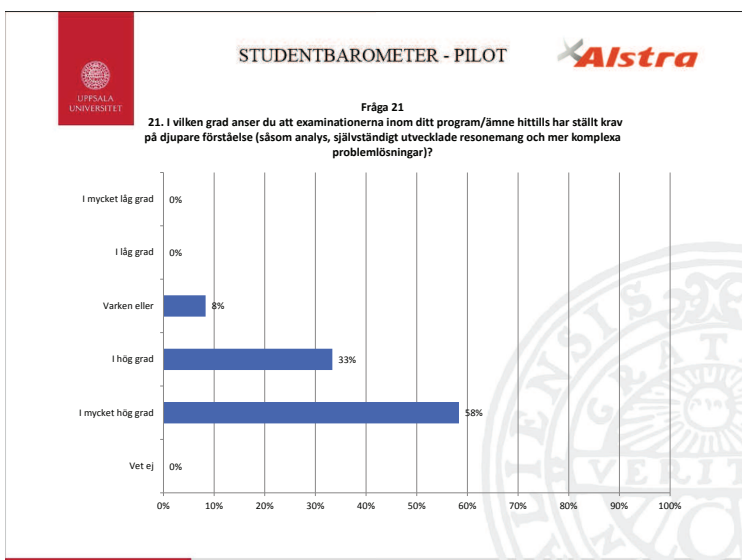
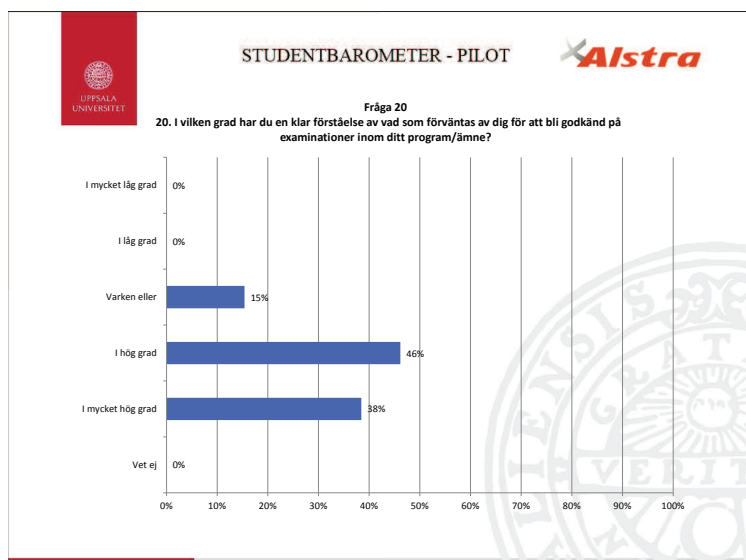
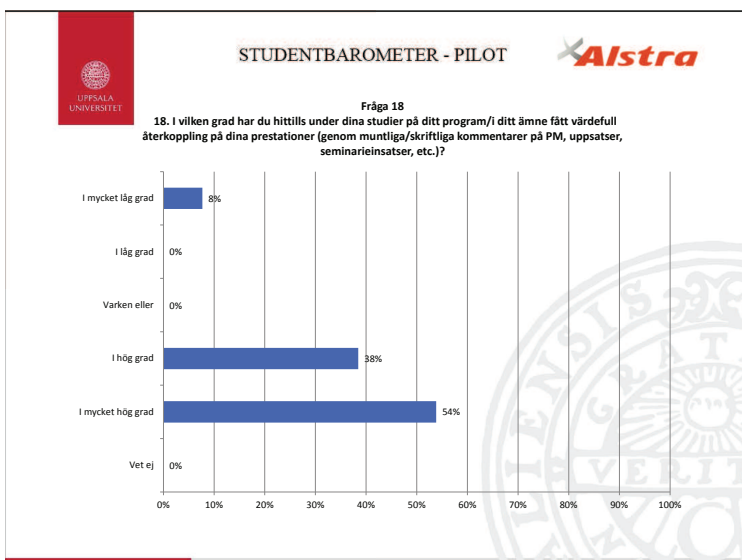
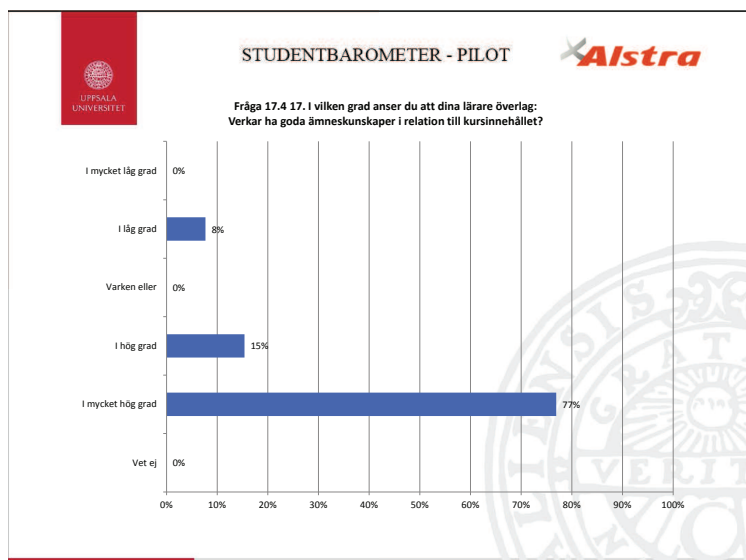
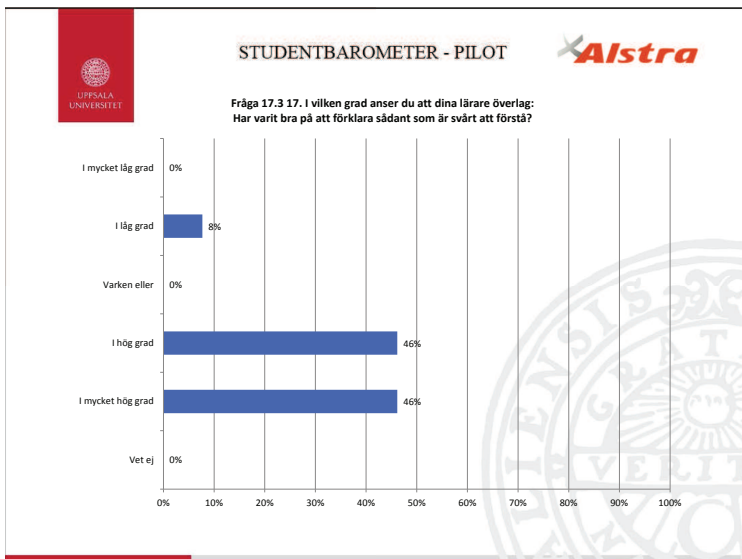
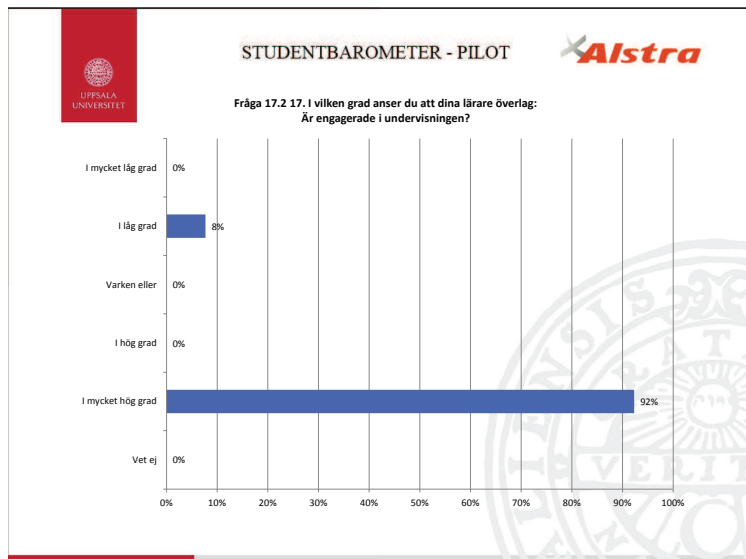
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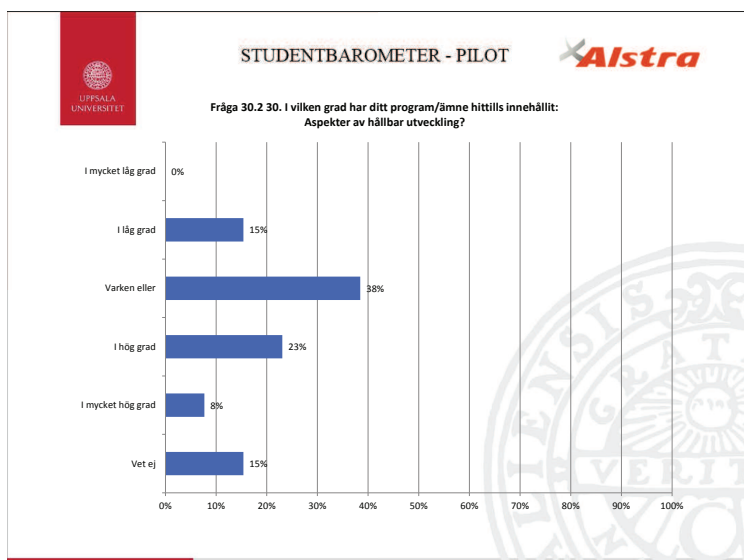
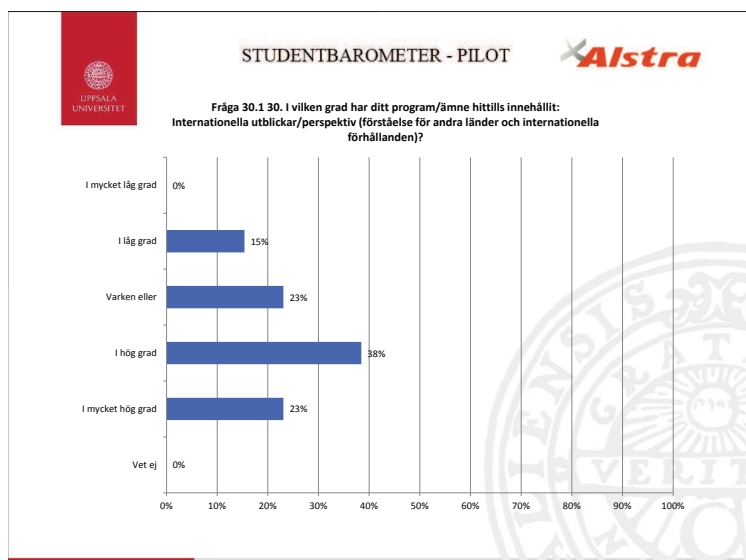
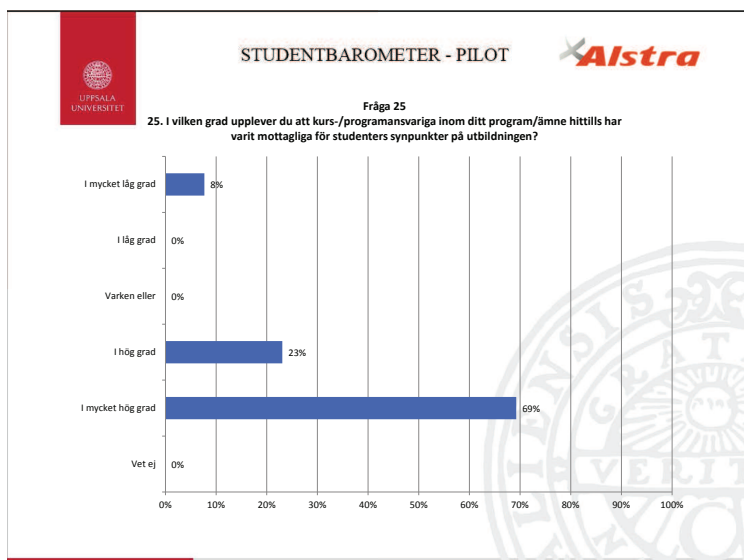
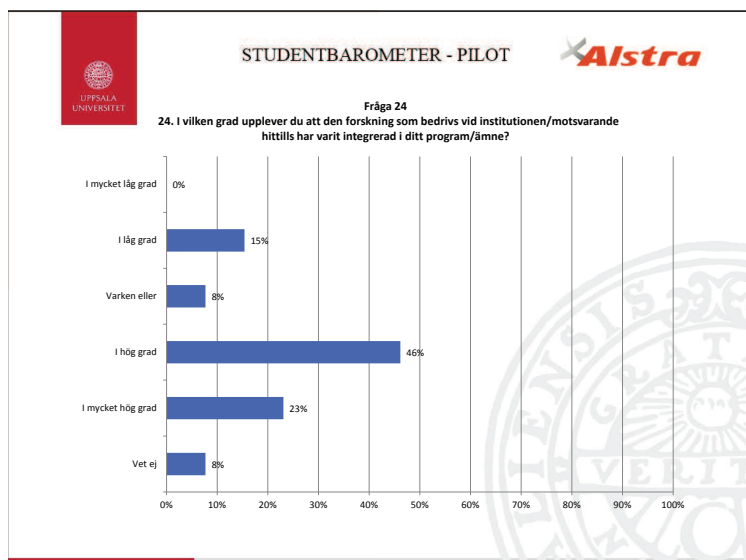
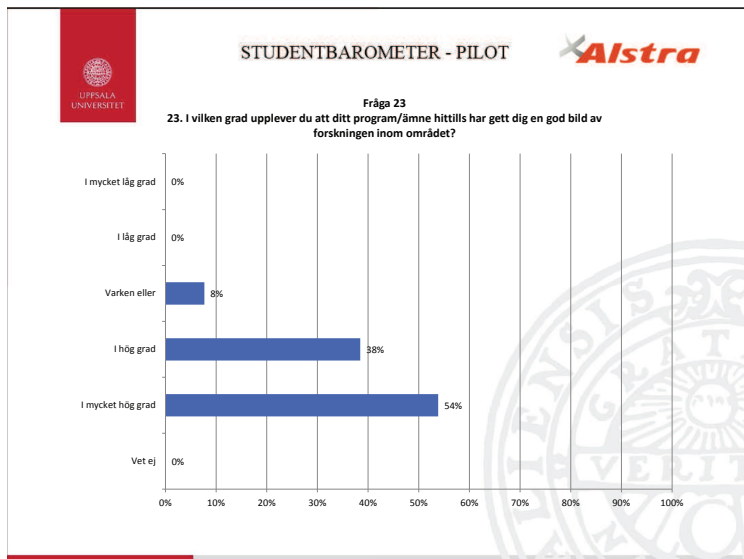
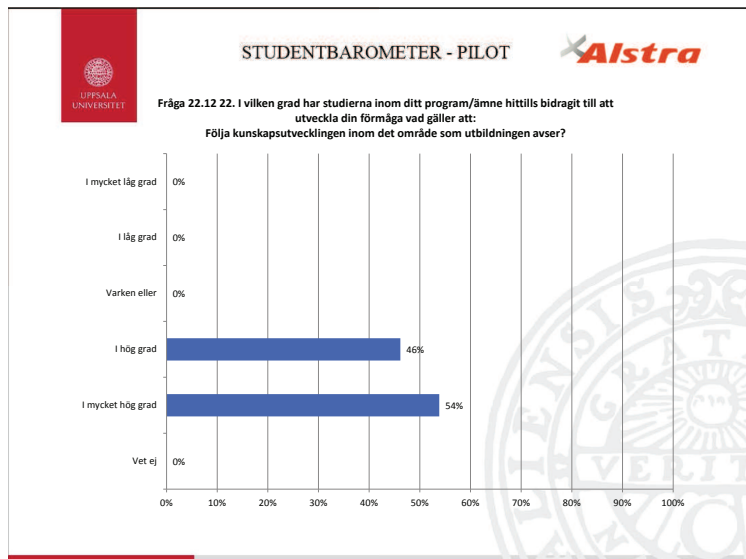


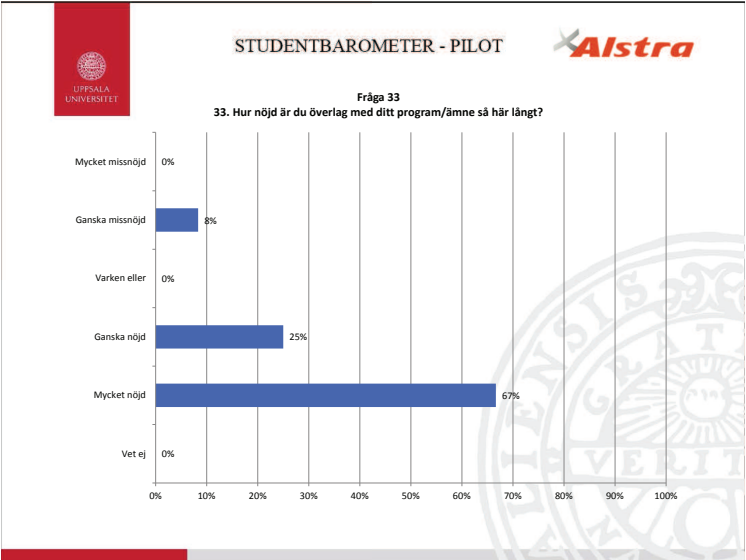
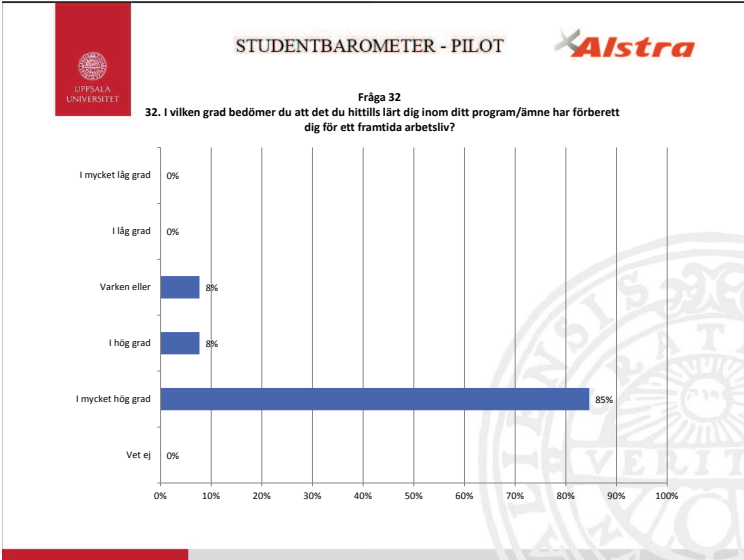
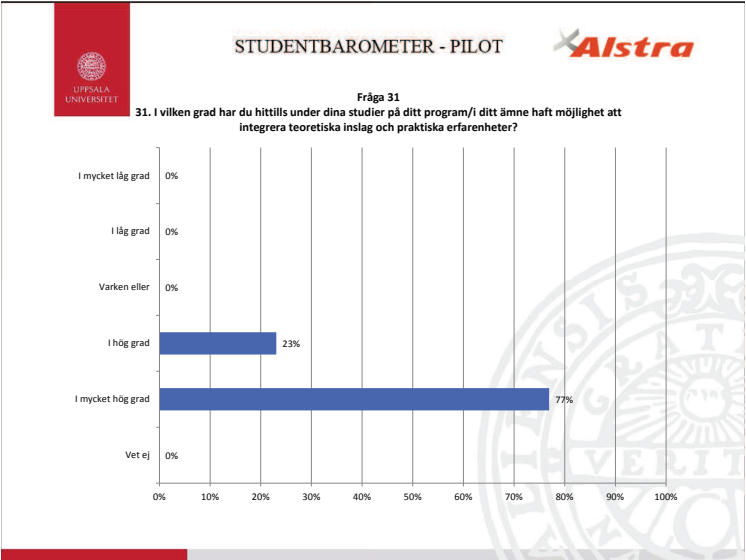
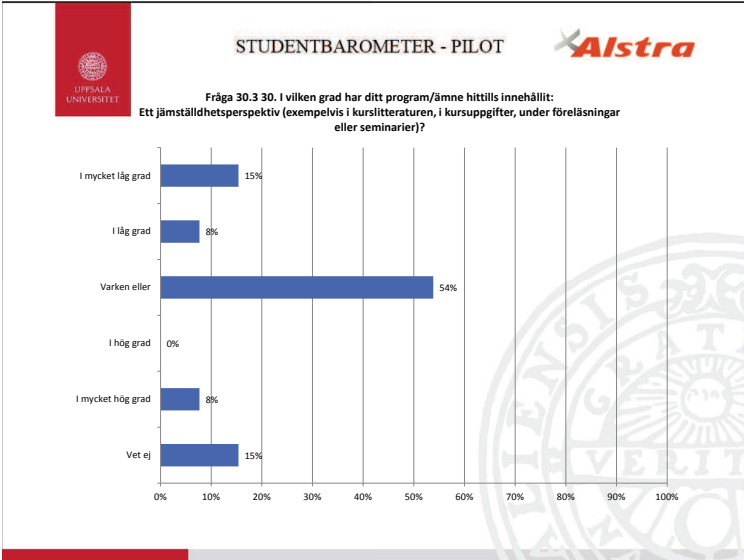
Fråga 14.1 14. Anser du att ditt program/ämne överlag borde haft mer eller mindre inslag av: Lärarledda föreläsningar?











Vad är särskilt bra med ditt program/ämne?

- Man får väldigt bra återkoppling från kursledarna, som är engagerade och positiva. - Bra med möjlighet att få reflektera praktikerfarenheter under Uppsalasamlingen. -Bra att varva teoretiska med praktiken

Gör en goda verktyg för att kunna arbeta självständigt som klinisk apotekare. Man får ett gott förtröende för sina kunskaper för att kunna arbeta kliniskt tillsammans med andra vårdprofessioner.

Vi har otroligt duktiga kursansvariga på programmet som ställer hög kvalitet på programmet och har en hög kvalitetsnivå som de strövar efter att samtliga studenter i klassen ska nå. Programmet ger oss studenter många verktyg att arbeta utefter och många tillfällen att öva och utveckla våra färdigheter ex. muntliga presentationer och kritiskt värdera texter. Klassen består även av "hungliga", motiverade studenter som alla är på samma nivå och vill samma sak. Det gör att undervisningen blir mer dynamisk än grundutbildning på universitetet. Programmet kursansvariga är dessutom pedagogiska, personliga, hårda och rättvisa och tillgängliga för oss studenter. De kommer med konstruktiv återkoppling som är lätt att förstå. Att de lyssnar på studenternas åsikter och ämnet försöker förbättra programmet gör detta program ännu bättre och unikt. Vi har fantastiska kursansvariga! De ska de veta!

Bra med mycket VFU, muntliga presentationer och skriftliga arbeten.

Kunniga och engagerade lärare. Man lär sig otroligt mycket och programmet ger en fördjupad kunskap som är svår att få enbart om man arbetar.

Verklighetsförankrat program med stort engagemang, både hos lärare och elever. Brett program som tar upp många relevanta aspekter som forskning, kritisk granskning, etik och såklart områdeskunskap.

Bra grund för arbetslivet.

Utvecklats både kunskapsmässigt och personligt

Kopplingen mellan teoretiska kunskaper och praktiskt användande

Bra seminarier och tydliga kriterier och anvisningar.

Vad skulle kunna förbättras inom ditt program/ämne?

-Mer klinisk praktik hade varit bra. -Bra om seminarierna är mer anpassade efter tentans nya upplägg. Förståeligt att övningstentorna inte var det men seminarierna hade kunnat anpassas. Gärna tydligare ställda frågor på kinestetikentant (min personliga bedömning)

Mer fokus på farmakoterapi.

Många saker kan alltid bli bättre! Men dessa förslag har redan lämnats till kursansvariga via kursvärderingar (vilket är det forum jag anser är bäst för förändringar av utbildningen).

Alldeles för många uppgifter på samma tidpunkt som ska göras.

Arbetsbelastningen är stundals otroligt hög. Det vore bra om arbetsbelastningen var med jämn över hela programmet.

Minska arbetsbelastningen: minska omfattningen av det vi ska lära oss och/eller öka antalet veckor som utbildningen genomförs på

Fördelningen av inlämningar och tentor under året

Jag skulle hellre se mer föreläsningar (på plats eller inspelat), och fler möjligheter att arbeta med seminarier i grupp, därmed något mindre VFU. Jag skulle vilja ha de flesta terapiföreläsningarna innan VFU. Allra helst tycker jag programmet skulle vara 3 terminer....

Table. Scheduled teacher-led hours on campus (excluding clinical supervision).

Academic Year	EBM, 12 credits	PT/PK, 15 credits (Pharmacotherapy /Pharmacokinetics)	Clin, 18 credits	Proj, 15 credits
2012/2013	55	98 (64/34)	31	37
2016/2017	56	82 (43/39)	25	42

Courses: Evidence-Based Clinical Pharmaceutical Methods, 12 credits (abbreviated “EBM”)
 Applied Pharmacotherapy, Pharmacokinetics and Therapeutics, 15 credits (abbreviated “PT/PK”)
 Clinical Attachment and Service Development, 18 credits (abbreviated “Clin”)
 Research Project in Clinical Pharmacy, 15 credits (abbreviated “Proj”)

Comments:

EBM, 12 credits. The total number of teacher-led hours has not changed in recent years. However, some of the content has changed, and we now put more focus on discussing the methodology used to evaluate the quality of evidence and to grade the strength of recommendations.

PT/PK, 15 credits. The number of teaching hours in pharmacotherapy has decreased, from 64 hours in 2012 to 43 hours in 2016. The change is due to multiple factors. One factor is a strong need to revise and streamline the programme for economic reasons. Further, when evaluating the programme, several lectures were found to cover required prior knowledge, also covered in specific courses needed for admission to the programme. As a service to the students, the lectures are now provided as recorded material. Nevertheless, in recent course evaluations we have noted that students identify the low number of lectures in pharmacotherapy as a deficiency of the programme. We therefore plan to re-introduce lectures in pharmacotherapy in specific topics not covered in previous courses, e.g. in relation to psychiatry and neurology. For teaching in pharmacokinetics, the number of teaching hours has not changed over the years. However, a change in content has been made, with the aim of integrating the pharmacokinetic aspect in other activities as well, e.g. in connection with case-based discussions, treatment optimisation and dose individualisation.

Clin, 18 credits. Some minor changes have been made, mainly reflecting a reduced focus on entrepreneurial aspects and a reduction in the number of oral presentations.

Proj, 15 credits. A slight increase in the number of teaching hours is observed, mainly reflecting an increase in the number of students.