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ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC
HQA
HELLENIC QUALITY ASSURANCE
AND ACCREDITATION AGENCY

Accreditation Report
for the Undergraduate Study Program of:
Molecular Biology and Genetics
Institution: Democritus University of Thrace
Date: 13 October 2019

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Επιχειρησιακό Πρόγραμμα
Ανάπτυξη Ανθρώπινου Δυναμικού,
Εκπαίδευση και Διά Βίου Μάθηση
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



Report of the Panel appointed by the HQA to undertake the review of the Undergraduate Study Programme of **Molecular Biology and Genetics** of the **Democritus University of Thrace** for the purposes of granting accreditation

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PART A: BACKGROUND AND CONTEXT OF THE REVIEW

I. The Accreditation Panel

The Panel responsible for the Accreditation Review (AP) of the Undergraduate Study Program of **Molecular Biology and Genetics of the Democritus University of Thrace** comprised the following three (3) members, drawn from the HQA Register, in accordance with the Law 4009/2011:

- 1. Prof. Dr. Efthimios A. Mitsiadis (Chair)**
University of Zurich, Zurich, Switzerland

- 2. Assoc. Prof. Anastassios C. Papageorgiou**
University of Turku and Åbo Akademi University, Turku, Finland

- 3. Prof. Dr. Sophia Kathariou**
North Carolina State University, Raleigh, NC, USA

II. Review Procedure and Documentation

The Panel received information about the Accreditation procedure and relevant documents on the 24th of September, 2019. The received documents included:

1. The accreditation proposal of the Department's undergraduate program
2. The study guide for undergraduate students
3. General guidelines for different academic programs (PhD thesis, Diploma work, mobility, practical exercise)
4. Information about courses offered currently and in the past
5. The policy of the Department regarding various benefits, activities, libraries, and safety rules during the lab exercises
6. Targets for the Department up to 2020
7. Results of questionnaires given to students
8. Results of the internal evaluation of the Department
9. Quality assessment data for the Department and the undergraduate program
10. Additional information regarding the citations, impact factor and funding for the faculty members
11. Faculty CVs
12. The external evaluation report from 2011

The Accreditation Panel (AP) met at ADIP offices on Tuesday with the President of ADIP Prof. Pantelis Kyprianos and the Managing Director, Dr. Christina Mpesta. During the meeting, AP members discussed the pending accreditation and asked several questions about the procedures. The meeting closed at 14:00 and the AP travelled to Alexandroupolis with an evening flight.

The site visit to the Department of Molecular Biology and Genetics (DMBG) started next day on Wednesday, October 9, at 9:30. The AP members met at a conference room of the DMBG building with key members of the Department, including the President of University Quality Assurance Unit (MODIP) (Prof. Zoe Gavriilidou), the Head of the Department (Assoc. Prof. Chlichlia), the Head of the Internal Evaluation Unit (OMEA) (Prof. Konstantina Fylaktakidou) and other representatives of MODIP and OMEA of the above units for a short overview of the Department. The AP then met teaching staff members selected by the Department that included 3 Professors, 11 Associate Professors, and 2 Assistant Professors. Next, AP met students from different years (it was not clear if students were randomly selected or chosen by the Department). AP noticed little representation of students from the first two years (only one student was representing the 2nd year, while none was representing the 1st year). In the afternoon, the meetings of the AP continued with graduates (post-graduate students, PhD students, post-doctoral researchers). AP noticed that none of the individuals were currently employed outside the DMBG. The last meeting of the AP was held with external stakeholders. The AP first interviewed researchers from two institutions (Thessaloniki; Lausanne, Switzerland) who periodically collaborated with DMBG faculty and hosted students for their

Diploma projects. AP met with a representative from Macedonian Thrace Brewery SA and discussed DMBG partnerships regarding the bioactive assessments of products being developed by the company, especially those derived from Sideritis. One of the external stakeholders (Research Genetics Cancer Center, Florina) could not be physically present and provided a letter describing the mentoring of undergraduate research projects within DMBG. Another stakeholder (Pharmathen SA) was not present in this meeting.

The next day, Thursday October 10, the site visit started at 9:30, with visits of the Main Library, main and secondary auditoriums, various classrooms and teaching laboratories followed by visits to several Molecular Biology and Biotechnology research laboratories where undergraduate students are able to pursue their Practical Exercise (Praktiki Askisi) and diploma-related research. The AP noted that Genetics research laboratories were not among those that were visited. In the last meeting of the day, the panel provided an overview of their assessment of the MBG undergraduate programme to representatives of the MODIP and OMEA and discussed major findings. The meeting concluded at 12:30.

III. Study Programme Profile

DMBG was founded in 1999 and started operations in the academic year 2000-2001. The academic mission of DMBG is to offer high-quality knowledge, research, and teaching in the areas of Molecular Biosciences with emphasis on biomedical sciences using modern methodological and technological tools in the fields of Molecular Biology and Genetics.

The duration of studies is four years (eight semesters) and currently requires 240 ECTS. The minimum number of courses to be completed are forty five required courses. A total of 66 courses are offered (38 mandatory and 28 elective courses) as well as a mandatory Diploma project that requires one semester for completion. The MGP undergraduate programme receives every year about 116 students, a number somewhat higher than desired by DMBG (100 students).

In addition to their degree, students can be awarded two certificates, but MGP undergraduate programme does not offer any specialization. DMBG wishes to maintain this situation and does not plan to offer specializations.

The Department is located in the Dragana campus, next to the University Hospital and the Health Sciences Department. It is well equipped, with plenty of space, very clean and attractive, with no graffiti, and this is justifiably a point of pride for the faculty. There is a good bus connection with the city that is offered free to students. There are one large and two smaller lecture theaters. Under construction are two other rooms, one of them destined for the training of 40 students in computer applications and the other as teleconference center.

PART B: COMPLIANCE WITH THE PRINCIPLES

Principle 1: Academic Unit Policy for Quality Assurance

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT ALL INSTITUTION'S AREAS OF ACTIVITY, AND PARTICULARLY AT THE FULFILMENT OF QUALITY REQUIREMENTS OF UNDERGRADUATE PROGRAMMES. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.

The quality assurance policy of the academic unit is in line with the Institutional policy on quality, and is included in a published statement that is implemented by all stakeholders. It focuses on the achievement of special objectives related to the quality assurance of study programmes offered by the academic unit.

Quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the programme, its purpose and field of study; it will realise the programme's strategic goals and it will determine the means and ways for attaining them; it will implement the appropriate quality procedures, aiming at the programme's continuous improvement. In order to carry out this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:

- a) the suitability of the structure and organization of the curriculum;*
- b) the pursuit of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;*
- c) the promotion of the quality and effectiveness of teaching;*
- d) the appropriateness of the qualifications of the teaching staff;*
- e) the enhancement of the quality and quantity of the research output among faculty members of the academic unit;*
- f) ways for linking teaching and research;*
- g) the level of demand for qualifications acquired by graduates, in the labour market;*
- h) the quality of support services such as the administrative services, the Library, and the student welfare office;*
- i) the conduct of an annual review and an internal audit of the quality assurance system of the undergraduate programme(s) offered, as well as the collaboration of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU);*

Study Program compliance

The structure and organization of the study program appears suitable to the teaching program objectives focus of DMBG. The learning objectives, outcomes and qualifications are in accordance with the European and the National Qualifications Framework for Higher Education. There are considerable efforts to promote high quality and effectiveness of teaching, with the ultimate goal of equipping graduates with skills allowing them to be

successful in their careers and workplace as well as for their further graduate training. The curriculum appears to be dynamic with attention being paid towards incorporating material on new trends and developments in Molecular Biology, Biotechnology and Genetics such as Nanotechnology, Bioinformatics and Microbiome analysis. While this is commendable, educational efforts in several of these new areas have been undertaken by faculty with somewhat unrelated academic backgrounds. The recent hiring of new teaching faculty will make positive contributions in this regard. Notable was also the relative scarcity of educational efforts focusing on Evolution.

The teaching faculty indicated consistent efforts to promote quality and effectiveness of teaching. DMBG is planning to institute a series of seminars and workshops open to all teaching faculty with the purpose of assisting faculty with adoption of novel teaching technologies and principles, to be coordinated by one of the current teaching faculty. It was commendable that currently some electives included a project-based approach that encouraged students to work in groups and analyze recent peer-reviewed publications in the field, then present their analysis via presentations to the class. This enhances student critical thinking and communication skills.

Attendance to the theoretical lecture courses is optional; only a relatively small fraction of students appear to attend these courses. Even though such attendance is not mandatory, perhaps teaching and performance evaluation practices can be designed to enhance attendance. Attendance to laboratory courses is mandatory.

Methods of evaluation of student performance depend on the course. While a series of assignments are evaluated for some advanced, elective courses, several of the larger core classes still rely on a single Final Examination, and failure rate on such courses can be high. Including midterms, easily-graded quizzes or other assignments will be valuable in allowing a more even and fair distribution of the grade.

Teaching faculty show strong involvement in externally-funded research programs, which is a significant requirement for the capacity of undergraduate students to successfully participate in research related to their Practical Exercise and Diploma-related projects, which are experimentally-based and required of all students. The excellent equipment in the research laboratories allows exposure and often training of undergraduates in state-of-the-art equipment and analytic procedures. The research programs appear to be effectively linked with the undergraduate teaching and training program.

The labor market for MBG students can involve the pharmaceutical, agrochemical and biomedical industries. In addition to their degree in Molecular Biology and Genetics, MBG students have the opportunity to take courses that allow them to be awarded two certificates: one in Computer Science ("IT certificate") and another with focus on pedagogical preparedness ("Pedagogical & Teaching Adequacy") that can satisfy certain requirements for the graduates to teach in the public and private sectors. Historically and currently, a majority of the MBG graduates have pursued further graduate education and many appear to have excelled in their subsequent academic or industry-based placement (within Greece or abroad).

DMBG teaching faculty and administrators appear enthusiastic and strongly committed to ensuring high quality of student support services. Advising is currently provided on *ad hoc* basis and when a student expresses the need for academic guidance. However, faculty will be shortly assigned student-advising responsibilities for the planning of courses and other academic issues as these may arise. The AP understood that these advising responsibilities will be distributed equally among the teaching faculty. There are also established procedures to address student welfare issues on *ad hoc* basis. A new position has been established with a legal staff whom students can consult to report troubling incidents. This staff, however, will be housed in another city (Komotini) in the region, thus potentially creating inconvenience.

Annual review procedures and internal audit of the quality assurance system of the DMBG undergraduate program are being managed in collaboration between the OMEA and MODIP. Students evaluate classes electronically, with an estimated 30-80% of the enrolled students submitting evaluations. There is an emphasis on the statistical analysis of the evaluation data. Electronic evaluations have been instituted quite recently, and therefore it is difficult to really assess their effectiveness.

Panel judgment

Principle 1: Institution policy for Quality Assurance	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

Target objectives should include longer-term plans, preferably over the next four to five years, to clearly articulate DMBG' s strategic plan and adjust it as needed. The academic/thematic identities that DMBG desires for the training program needs must be more clearly identified.

Newly instituted programs and practices, e.g., the Faculty-Advisor, the teaching effectiveness seminars and workshops to the teaching faculty, the legal staff to receive and help address student grievances need to be monitored for their effectiveness and adjusted as needed. For instance, it may be important to discuss and agree upon the distribution of student advising duties and assess the effectiveness of the current plans.

Practices and services that are already available, including services (provision of hard copy Diplomas and transcripts) by the administration (Grammateia) need to be actively monitored to ensure that students are not adversely impacted by delays in receiving needed documents. Since transcripts and Diplomas needed to be translated in English for obvious purposes, an efficient and appropriate translation of these documents must be provided.

Adjustment of student evaluation methods to reduce reliance on a single Final Examination may be worthy of exploring by the teaching faculty. Wider distribution of the student-grading

scheme may enhance student learning, reduce failure rate and enhance the likelihood of timely degree completion by the students.

It would be useful if at least some of the presentations could be given in English, to facilitate student preparedness for participation in international venues.

Principle 2: Design and Approval of Programs

INSTITUTIONS SHOULD DEVELOP THEIR UNDERGRADUATE PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE PROGRAMME. THE OBJECTIVES, THE EXPECTED LEARNING OUTCOMES, THE INTENDED PROFESSIONAL QUALIFICATIONS AND THE WAYS TO ACHIEVE THEM ARE SET OUT IN THE PROGRAMME DESIGN. THE ABOVE DETAILS AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.

Academic units develop their programmes following a well-defined procedure. The academic profile and orientation of the programme, the objectives, the subject areas, the structure and organisation, the expected learning outcomes and the intended professional qualifications according to the National Qualifications Framework for Higher Education are described at this stage. The approval or revision process for programmes includes a check of compliance with the basic requirements described in the Standards, on behalf of the Institution's Quality Assurance Unit (QAU).

Furthermore, the programme design should take into consideration the following:

- *the Institutional strategy*
- *the active participation of students*
- *the experience of external stakeholders from the labour market*
- *the smooth progression of students throughout the stages of the programme*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System*
- *the option to provide work experience to the students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the programme by the Institution.*

Study Program compliance

DMBG's strategy has been formulated to be the center of excellence in teaching and research in the field of Molecular Biology and Genetics. Owing to the presence of the Medical School, the Department aims to increase the synergies in the field of Medical Biosciences.

The student program is based on international standards to offer both theoretical and practical knowledge to modern technologies and methodologies through a series of laboratory exercises, practical exercise (elective) and a diploma work. The program aims to engage all students in participating in new developments of Molecular Biology and Genetics. However, since many students take more than four years to complete studies, one can only wonder if this is also due to reduced student engagement.

The stakeholders of the labor market as well as the academic partners mentioned that the MBG graduates were very well trained. However, the number of stakeholders was very small and therefore a larger picture of the potential cooperation and interaction with the labor market stakeholders could not be obtained. The AP believes that DMBG has a big potential in exploring opportunities with industrial and social partners at the local level.

The program is structured by semesters. However, there is no clear staging, for example with prerequisite courses that need to be successfully finished before other courses are taken. This leads to a lack of obvious staging of the program.

The program follows the European Credit Transfer (ECTS). However, the workload even in the new program continues to be very high. Whereas the number of courses has been significantly reduced, the covered syllabus has not been proportionally reduced.

Teaching and research activities are pursued through the obligatory Diploma project that is experimentally oriented and requires completion of a research project.

There are procedures in place to officially implement changes and approve them in the General Assembly.

The structure of the study program is rational and clearly articulated, and the Student Guide is complete, concise and appropriate. The Student Guide is updated every year and there is a plan to revise the study program on a regular basis. The curriculum revision procedures do not involve an active consultation with students or representatives.

Panel judgement

Principle 2: Design and Approval of Programmes	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

Other methods of student engagement should be explored, such as tutorials, new pedagogical methods of learning etc.

Stakeholders should be clearly identified beyond the ones present in the meeting with the panel. The representation was very limited compared to the breadth of the program. We could foresee strategic stakeholder alliances with research institutes, environmental agencies, the biomedical and pharmaceutical sector, and others.

As discussed with the Department, the new curriculum is shorter (fewer courses). However, in the opinion of the AP it continues to be long by international standards. The Department aims to cover a large scientific area of study. It is realistically impossible that students would become experts in all areas of Molecular Biology and Genetics in 2019 and beyond. While the AP encourages the mission of the Department to serve the study of Molecular Biology and Genetics in broad terms, the coursework must be significantly lightened, aiming to introduce advanced concepts and not to lead to repetitions and technical specialization of the students. It should aim to engage and inspire and not to provide detailed knowledge that could be

acquired during Masters courses offered by the Department. This philosophy should be reflected both in mandatory and elective courses.

The AP discussed the possibility of including a course on the general principles of evolutionary theory early during the curriculum, and preferably during the first semester, and not late as part of a bigger course.

Principle 3: Student-centred Learning, Teaching and Assessment

INSTITUTIONS SHOULD ENSURE THAT THE UNDERGRADUATE PROGRAMMES ARE DELIVERED IN A WAY THAT ENCOURAGES STUDENTS TO TAKE AN ACTIVE ROLE IN CREATING THE LEARNING PROCESS. THE ASSESSMENT METHODS SHOULD REFLECT THIS APPROACH.

Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.

The student-centred learning and teaching process

- *respects and attends to the diversity of students and their needs, enabling flexible learning paths;*
- *considers and uses different modes of delivery, where appropriate;*
- *flexibly uses a variety of pedagogical methods;*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods aiming at improvement;*
- *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys;*
- *reinforces the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff;*
- *promotes mutual respect in the student - teacher relationship;*
- *applies appropriate procedures for dealing with students' complaints.*

In addition :

- *the academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field;*
- *the assessment criteria and methods are published in advance;*
- *the assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process;*
- *student assessment is conducted by more than one examiner, where possible;*
- *the regulations for assessment take into account mitigating circumstances;*
- *assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures;*
- *a formal procedure for student appeals is in place.*

Study Program compliance

DMBG faculty and administration are fully aware that students come with diverse academic and social backgrounds, and may have different learning styles. For core courses, there are limited opportunities to address different learning styles, but clearly reliance on a sole Final Examination for student evaluation may not be helpful for those who are not socially privileged (e.g., students originated from poor families with needs to work during their studies) or with other special requirements. The faculty are also aware that a number of students may have special cultural (e.g., language, religion), physical or cognitive needs. Due to the need for laboratory involvement and the accompanying chemical and biological safety issues, students with certain disabilities are not admitted (e.g., blind individuals).

Teaching material is available to the students at the beginning of each class through e-class modules. In addition, hard copies of laboratory protocols (as well as PDF versions) are available to students taking laboratory classes. The format of the hard copy laboratory protocols that served as examples appeared to be somewhat antiquated, but the availability of the electronic version may redeem some of this.

Student assessment criteria for each class are made available in advance via e-class. Assessment is carried out only by the individual instructor; there was no evidence that more than one examiner becomes involved. The extent to which DMBG regularly evaluates and adjusts pedagogical tools and approaches cannot be assessed at the current time. Data based on previous evaluations, which were done manually over several years were not available. The electronic course evaluation data have only recently become available. The fraction of students submitting the evaluations varies according to the class (e.g., 30-70). The questionnaires are fairly long and this may discourage students to participate in the evaluation procedure.

The overall sense was that the student-faculty relationship at DMBG is accompanied with mutual respect. The new position of the faculty advisors will streamline study plans and provide further support as needed. The new position of the ombudsman (mediator) will be an asset for students who experience unusual circumstances or have specific grievances.

Panel judgement

Principle 3: Student- centred Learning, Teaching and Assessment	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

Shorter questionnaires for the electronic evaluations may enhance the participation of students.

The teaching faculty are aware of the importance of development of critical and independent thinking skills and the value of problem-based learning for students. However, the reliance on a single examination for student evaluation, apparently common in large core courses, may create obstacles in the capacity of students to be able to self-assess their learning. Diversifying the evaluation scheme (e.g. student team presentations of selected topics to their peers, their interactions through questioning, and final evaluation by the academic staff) may address this issue and promote more student engagement in the learning process.

Practices for further accommodation of students with physical disabilities or other special challenges and extenuating circumstances should be considered by the teaching faculty.

The teaching faculty are encouraged to continue their regular (e.g., yearly) evaluation of pedagogical tools and approaches and discuss and design adjustments that may be needed.

Principle 4: Student Admission, Progression, Recognition and Certification

INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION).

Institutions and academic units need to put in place both processes and tools to collect, manage and act on information regarding student progression.

Procedures concerning the award and recognition of higher education degrees, the duration of studies, rules ensuring students progression, terms and conditions for student mobility should be based on the institutional study regulations. Appropriate recognition procedures rely on institutional practice for recognition of credits among various European academic departments and Institutions, in line with the principles of the Lisbon Recognition Convention.

Graduation represents the culmination of the students' study period. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed (Diploma Supplement).

Study Program compliance

There is an annual welcome reception, which includes a tour of the Department. This has been well received by the students.

There has also been the introduction of the faculty advisor system, via which each new student will be assigned to a faculty member who becomes their advisor. This also appears to be welcomed by the students, with senior students indicating that such an advisor would have been beneficial for their own programs.

Currently, there is no official system to monitor student progress. A faculty advisor could be critical to monitor students progress and guide them accordingly.

The ECTS system is clearly and consistently applied across the curriculum.

There are established procedures for students to receive documentation that explains the Diploma award and the Diploma supplement (transcript). All documents can be obtained electronically. However, obtaining hard copies of the Diploma and adequately translated transcripts and materials that describe the course content so that equivalencies can be determined by international institutions, may still be a challenge. Some students reported long delays in receiving such hard-copy documents. Translations of these documents in English are often needed for post-graduate studies abroad, and therefore an appropriate and correct translation is necessary. This is accentuated by the constant addition of novel courses following the tremendous progress of the Molecular Biology and Genetics fields.

Panel judgement

Principle 4: Student Admission, Progression, Recognition and Certification	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The panel recommends that the current plans for the faculty advisor becomes smoothly implemented. The advising and its effectiveness need to be monitored, both by the individual advisor and by the DMBG administration, and periodically reviewed.

A more streamlined process to provide hard copies of Diplomas and transcripts needs to be implemented and monitored. It is important that hard copies should be provided in a timely manner owing to the importance of these documents in applications for post-graduate studies and job applications.

Principle 5: Teaching Staff

INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE QUALIFICATIONS AND COMPETENCE OF THE TEACHING STAFF. THEY SHOULD APPLY FAIR AND TRANSPARENT PROCESSES FOR THE RECRUITMENT AND DEVELOPMENT OF THE TEACHING STAFF.

The Institutions and their academic units have a major responsibility as to the standard of their teaching staff providing them with a supportive environment that promotes the advancement of their scientific work. In particular, the academic unit should:

- *set up and follow clear, transparent and fair processes for the recruitment of properly qualified staff and offer them conditions of employment that recognize the importance of teaching and research;*
- *offer opportunities and promote the professional development of the teaching staff;*
- *encourage scholarly activity to strengthen the link between education and research;*
- *encourage innovation in teaching methods and the use of new technologies;*
- *promote the increase of the volume and quality of the research output within the academic unit;*
- *follow quality assurance processes for all staff members (with respect to attendance requirements, performance, self-assessment, training etc.);*
- *develop policies to attract highly qualified academic staff;*

Study Program compliance

The current composition of the Faculty is as follows: Full Professors (24%), Associated Professors (38%), Assistant Professors (38%). Two new positions were advertised and filled recently. The Department aims to be open and transparent.

The teaching staff mentioned that they were satisfied with their professional development.

As the Diploma is mandatory there is ample opportunity to combine research with education for both students and faculty. Support faculty (ΕΔΙΠ) and post-doctoral researchers provide daily supervision to the diploma students and practical exercises.

The teaching is based in both standard and innovative methods to induce student engagement. However, the teaching of a good number of staff is based in unattractive methods (e.g., slides taken for books without any variation), thus promoting low participation of students in the courses.

Shared equipment and resources give the opportunity to all faculty members to conduct high quality research. The faculty is aware of the research output for the reputation of their Department as well as themselves.

There is not a quality assurance procedure that evaluates the performance of staff members.

The policy to attract academic staff (advertisements) is mostly through the ΑΠΕΛΛΑ system.

Teaching mobility is satisfactory and active. Staff often visits foreign universities and research centers abroad (e.g., EU, USA, Australia). Similarly, academic staff and researchers from abroad visit the Department for long periods of time.

The staff considers the teaching load correct and not excessive. However, there are some concerns about the number of students (120 students / year), which is considered relatively higher than the ideal one (100 students / year) proposed by the department.

Panel judgement

Principle 5: Teaching Staff	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The use of alternative teaching methods or web-based tools should be further explored.

Given the prominent position of DMBG in Greece and the high quality of the faculty applicants that it attracts, the AP encourages DMBG to continue hiring faculty of international standing and capable of securing EU-, EU- and National-level funding.

Publications should continue to appear in high-impact journals.

Principle 6: Learning Resources and Student Support

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER TEACHING AND LEARNING NEEDS. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARNING AND STUDENT SUPPORT AND–ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, BOARDING, CAREER AND SOCIAL POLICY SERVICES ETC.).

Institutions and their academic units must have sufficient funding and means to support learning and academic activity in general, so that they can offer to students the best possible level of studies. The above means could include facilities such as libraries, study rooms, educational and scientific equipment, information and communications services, support or counselling services.

When allocating the available resources, the needs of all students must be taken into consideration (e.g. whether they are full-time or part-time students, employed or international students, students with disabilities) and the shift towards student-centred learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the institutional context. However, the internal quality assurance ensures that all resources are appropriate, adequate, and accessible, and that students are informed about the services available to them.

In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.

Study Program compliance

The DMBG instructional facilities are excellent. The teaching appeared to be well maintained and organized, with adequate attention placed on chemical and biological safety of the students. Research laboratories, where students performed their Practical Exercise and Diploma-related research, appeared to be immaculately maintained and adequately supervised. Educational and scientific equipment was appropriate, up to date, and well maintained. The AP was impressed with the type and quality of research equipment, which is often accessible for undergraduate student research with correct training and supervision.

One main concern reported by the staff and students was the frequent electric power interruptions compromising their teaching and research activities. To resolve this problem there are requests for a power generator, but there is difficulty in obtaining this generator.

Library facilities and resources are excellent. The library is located nearby the DMBG, well lit, nicely organized and attractive, providing ample space for students to utilize the resources there for studying or for library research. There are three librarians who adequately addressed all questions posed by the AP. However, library hours appear limited. The library closes early in the evening (19:00), and is also closed during weekends. Also, wheelchair accessibility is lacking.

Information and communication systems appear adequate.

Students are provided with free city bus transportation. This allows easy access to housing and eating facilities within the city. However, housing appears to be a challenge within the city of Alexandroupolis.

Support and counseling services are still provided largely on *ad hoc* basis. This is expected to improve with the recent recruitment of faculty advisors and the established ombudsman services.

Athletic or cultural resources accessible to students and in the vicinity of the Department appear limited. In particular, there is only a football field and poor indoor sport facilities (basketball field). The track and field is destroyed and there is no common exercise center.

Overall, DMBG has been excellently maintained with impressively clean and inviting facilities, both in the classrooms and laboratories as well as in the associated spaces.

Panel judgement

Principle 6: Learning Resources and Student Support	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

Better athletic facilities would be a desirable development on campus. It is important the creation of a modern structure where the students (and staff) could exercise daily to release stress and keep their well-being.

Wheelchair accessibility should be promoted in current and planned facilities.

Principle 7: Information Management

INSTITUTIONS BEAR FULL RESPONSIBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF UNDERGRADUATE PROGRAMMES OF STUDY AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASILY ACCESSIBLE WAY.

Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students as well as to the academic community.

Reliable data is essential for accurate information and for decision making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on study programmes and other activities feed data into the internal system of quality assurance.

The information gathered depends, to some extent, on the type and mission of the Institution. The following are of interest:

- *key performance indicators*
- *student population profile*
- *student progression, success and drop-out rates*
- *student satisfaction with their programme(s)*
- *availability of learning resources and student support*
- *career paths of graduates*

A number of methods may be used for collecting information. It is important that students and staff are involved in providing and analyzing information and planning follow-up activities.

Study Program compliance

The information system operated by MODIP allows collection of Key Performance Indicators (KPIs) for every individual year. Many KPIs are presented in text, or at best in tabular format. A better presentation of the collected KPIs would be desirable as consolidated graphs are not in use. While the staff is strongly involved in collecting and analyzing information, student involvement remains desirable.

The tables imply that the Department collects various KPIs to monitor progress over a short period of time (one year). KPIs were plenty but somewhat hard to follow by the AP; they may also be of limited use to the staff to enable continuous monitoring processes.

The general student population profile is available (e.g., gender balance, year of study, graduation year etc). However, due to lack of continuous monitoring, student progression is difficult to follow. MODIP has no available data regarding the employment of graduates and some data for years 2012-2013 are provided by the Career Placement Office.

There are students that take longer than four years to complete their studies. The available metrics do not permit easy or timely capture of such information so as to implement corrective actions. Scrutiny of the data that were provided suggested that of about 600 enrolled students, an estimated 100 exceed two years past the projected four-year period for degree completion (“n+2”).

The information-gathering system has failed to capture student satisfaction, as the majority of students do not return questionnaires. That precludes any chances for appropriate analysis. This is an area of concern but we acknowledge the difficulty to implement such actions.

Graphs are used for the student surveys concerning courses.

Instructional resources are available through e-class.

It appeared that the academic unit has not established procedures for the collection of data regarding teaching methods, student progression, employability and career paths of graduates, as such data were not available to the panel. Only for year 2012-2013 was some information available through the Career Placement Office.

Panel judgement

Principle 7: Information Management	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

The information management system is a large area of concern. A substantial effort, preferably led by MODIP, and involving all parties, is necessary to address this issue. These actions should aim to improve the methodology to collect, analyze and present all information in a more efficient and engaging manner. Use of other ways of presentations, preferably in a graphical form, is highly recommended, especially for the KPIs to assist in the better planning of the Department's strategy.

Principle 8: Public Information

INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES WHICH IS CLEAR, ACCURATE, OBJECTIVE, UP-TO-DATE AND READILY ACCESSIBLE.

Information on Institution's activities is useful for prospective and current students, graduates, other stakeholders and the public.

Therefore, institutions and their academic units provide information about their activities, including the programmes they offer, the intended learning outcomes, the qualifications awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students, as well as graduate employment information.

Study Program compliance

DMBG has a website that provides information on current programs. Course content information is available in a prospectus that is updated annually and is available both in Greek and in English. However, the prospectus on the website is tedious to navigate. A more clear delineation of the different courses (e.g., by using different fonts or colors) is needed. The line on prerequisites was left blank in the course description. Students would benefit from indications of which prior courses would be appropriate. Also, a more concise and better-organized description of course content and learning outcomes for each course would be highly beneficial. Procedures employed for student assessment are indicated for each class. Information on pass rates could not be located in the prospectus.

In the website, the link on "Student Exchange Programs" connects to the general site for ERASMUS. This is useful information, but a link specific to ERASMUS activities and other student mobility initiatives specifically at DMBG would be very important.

Employment of graduates and other placement-related information could not be readily located in the website.

With a few exceptions, the CVs and a link to key quality indicators of teaching staff were available in the website.

Panel judgement

Principle 8: Public Information	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The website should be amended to facilitate navigation of courses in the prospectus. Similarly, the identification of seminars being offered by external speakers and open to the students should be easier.

Students would benefit from indications of which prior courses would be appropriate. Also, a more concise and better-organized description of course content and learning outcomes for each course would be highly beneficial.

Including up-to-date information on DMBG student mobility programs in the website will be useful.

A discussion of potential employment/placement opportunities should be also included in the website.

Principle 9: Ongoing Monitoring and Periodic Internal Review of Programmes

INSTITUTIONS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR PROGRAMMES, SO AS TO ACHIEVE THE OBJECTIVES SET FOR THEM, THROUGH MONITORING AND AMENDMENTS, WITH A VIEW TO CONTINUOUS IMPROVEMENT. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.

Regular monitoring, review and revision of study programmes aim to maintain the level of educational provision and to create a supportive and effective learning environment for students.

The above comprise the evaluation of:

- *the content of the programme in the light of the latest research in the given discipline, thus ensuring that the programme is up to date;*
- *the changing needs of society*
- *the students' workload, progression and completion;*
- *the effectiveness of the procedures for the assessment of students*
- *the students' expectations, needs and satisfaction in relation to the programme;*
- *the learning environment, support services and their fitness for purpose for the programme*

Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date. Revised programme specifications are published.

Study Program compliance

The DMBG faculty appear to rigorously monitor the Program of Studies in light of new trends in research and education. This results in a dynamic program and is evidenced by the design of new courses, hire of new teaching faculty with the requisite academic and research backgrounds, and adjustment of course load to accommodate the inclusion of new courses. Students or other stakeholders do not appear to have been involved in the decision-making process regarding curriculum amendments and program content.

Monitoring of student workload and progress has been done on an *ad hoc* basis, but will be more systematically pursued with the faculty advising program, which is soon to be implemented.

The effectiveness of the procedures for evaluation of student performance needs to be more regularly discussed. Currently data on effectiveness of different methods appear to be lacking, and the discussion on relative effectiveness centered on anecdotal evidence.

Students' expectations, needs and satisfaction are being partially addressed via the electronic evaluations for each class. It is not clear whether a periodic or final assessment is solicited by the student. A final assessment could be obtained, for instance, shortly before graduation, via an in-person exit interview.

Panel judgement

Principle 9: Ongoing Monitoring and Periodic Internal Review of Programmes	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

It is recommended that program content review continues to be regularly done, and ideally includes involvement of students.

More accurate assessments should be made of students' expectations, needs and satisfaction with the program. Ideally, this should be done both in the course of the student's program and at completion.

Effectiveness of different student assessment modalities (e.g., single final examination or other approaches) needs to be more systematically monitored.

Principle 10: Regular External Evaluation of Undergraduate Programmes

PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY COMMITTEES OF EXTERNAL EXPERTS SET BY HQA, AIMING AT ACCREDITATION. THE TERM OF VALIDITY OF THE ACCREDITATION IS DETERMINED BY HQA.

HQA is responsible for administering the programme accreditation process which is realised as an external evaluation procedure, and implemented by a committee of independent experts. HQA grants accreditation of programmes, with a specific term of validity, following to which revision is required. The accreditation of the quality of the programmes acts as a means of verification of the compliance of the programme with the template's requirements, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees.

Both academic units and institutions participate in the regular external quality assurance process, while respecting the requirements of the legislative framework in which they operate.

The quality assurance, in this case the accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions and their academic units ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.

Study Program compliance

The present accreditation takes place for the first time for the MBG undergraduate programme. An external evaluation of DMBG took place in 2011. The panel found a significant improvement since the 2011 external evaluation and noted the implementation of most recommendations. The members of the staff are aware of the importance of the periodic external reviews and their contribution to the improvement of the department.

Panel judgement

Principle 10: Regular External Evaluation of Undergraduate Programmes	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

None.

PART C: CONCLUSIONS

I. Features of Good Practice

- There is a strong effort, willingness and enthusiasm by the Department to comply with evaluation procedures.
- The staff is proactive, dedicated, enthusiastic, dealing with all teaching duties and involved in high-quality research activities.
- Most of the staff is involved in successful research grant applications that guarantee the smooth functioning of the Department.
- There is no inbreeding of the faculty.
- The new curriculum follows recommendations from the previous evaluation and efforts are being done for continuously improving and excelling in teaching and research.
- A strong effort to welcome students (orientation day, tour of department, assignment of mentor) is in place.
- A student/faculty advisor and ombudsman (mediator) are about to be introduced.
- The gender balance is not respected in staff members and students (more females than males) but this does not appear to be problematic for the good functioning of the Department.
- There is a strong awareness of the importance of research impact.
- There are strong efforts for public engagement such as regular guided school visits and invitations to social partners and stakeholders.
- The web-site is up to-date.
- The teaching facilities are excellent, with one large lecture hall, and two smaller lecture halls, good and well-managed spaces for laboratory practicals; the spaces are impressively clean, well managed and well-lit.
- A new computer room, with high quality standards, will be functional soon.
- A new teleconference room will be available soon.
- The library is excellent and functional, with dedicated personnel, well equipped, plenty of natural light, and well designed.
- Emphasis is given on career guidance of students by providing systematic feedback to enhance awareness for national and international opportunities to continue their studies or careers.
- Satisfactory rate of mobility of students with Erasmus, as well as of academic staff.
- The Department actively participates in eight specialized infrastructures in Greece (eg, Patras, Heraklion, Athens, Larissa, Thessaloniki etc).
- Stakeholder showed great interest in pursuing further existing academic/industrial partnerships with DMBG.
- Several social partners and public stakeholders are identified and engaged, resulting in good utilization of such resources for continuous development of the Department.

II. Areas of Weakness

- Limited use of innovative pedagogical methods resulting in deficiencies in adhering with modern student-centered learning principles and low attendance of students in the courses.
- The function of the administration office is not satisfactory concerning the delivery of hard copies of diplomas and relative material (delayed procedures, errors in translation from Greek to English).
- Good support services for infrastructure (e.g., electricity) are not provided.
- Limited sport facilities.
- The scientific collaborations with the Medical Faculty have been improved since the last evaluation period, but there should be a continuous effort to further develop and strengthen.
- Limited follow-up of the career paths of graduates.

III. Recommendations for Follow-up Actions

Recommendations for follow-up actions have been detailed in each of the ten sections (principles) of the accreditation. The AP wishes to highlight the following actions:

- Promotion of complementary skills (presentation, entrepreneurship, etc).
- Lightening further the course load of the program.
- More extensive use of innovative pedagogical methods, e.g., tutorials, case studies, debates.
- Establishment of a teaching program with student involvement.
- Improvement of the course feedback procedure collection and analysis system.
- It is commendable that students are encouraged to work in groups and participate actively in the teaching.
- Further accommodation of students with physical disabilities and extenuating circumstances should be considered.
- More stakeholders, public and private partners should be identified and engaged, thus helping to regional development and advancement of Departmental needs.
- The AP was reassured that the Department is fully aware of the importance of an administration office that handles promptly and with efficacy all administrative issues. Along those lines, the AP received assurances that the administration office has been improved in recent years “via the implementation of the electronic system”. The AP encourages the continuation of the improvements and further development of the provided administrative services.

IV. Summary & Overall Assessment

The Principles for which full compliance has been achieved are:

Principle 1: Academic Unit Policy for Quality Assurance.

Principle 4: Student Admission, Progression, Recognition and Certification.

Principle 5: Teaching Staff.

Principle 6: Learning Resources and Student Support.

Principle 8: Public Information.

Principle 10: Regular External Evaluation of Undergraduate Programmes.

The Principles for which substantial compliance has been achieved are:

Principle 2: Design and Approval of Programmes.

Principle 3: Student-centred Learning, Teaching and Assessment.

Principle 7: Information Management.

Principle 9: Ongoing Monitoring and Periodic Internal Review of Programmes.

The Principles for which partial compliance has been achieved are:

None.

The Principles for which failure of compliance was identified are:

None.

Overall Judgement	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

**The members of the Accreditation Panel for the Undergraduate Programme
Molecular Biology and Genetics of the Democritus University of Thrace**

Name and Surname

Signature

- **Prof. Thimios Mitsiadis (Chair)**, University of Zurich, Zurich, Switzerland
- **Prof. Sophia Kathariou**, North Carolina State University, Raleigh, North Carolina, USA
- **Adjunct Prof. Anastassios Papageorgiou**, University of Turku, Turku, Finland