

### IMT School for Advanced Studies Lucca

### JOINT STUDENTS AND TEACHERS BOARD: 2019 ANNUAL REPORT ON THE 2018-19 ACADEMIC YEAR AND PREVIOUS ACADEMIC YEARS

### INTRODUCTION

The Joint Student and Teacher Board (henceforth "Board") of the IMT School for Advanced Studies Lucca (henceforth "IMT") was **established**, under art. 2, paragraph 2, letter g) of Law 240/2010, by a Director's Decree on **November 7, 2018**. The Board acts as the primary internal evaluator of the School's education offering and comprehensively monitors the Quality Assurance of the academic programs and student services. The Board is made up of three student members and three faculty members appointed by the Director. The Board **took office on March 6, 2019**. At the time of the publication of this report, the Board consists of:

**Student members:** <u>Sara Landi</u> - Assessment Board student representative; <u>Stella Simic</u> - Board of Governors' student representative; <u>Anna Pirri Valentini</u> - Academic Senate student representative.

**Faculty members:** <u>Amos Bertolacci</u> - Full professor (as Chairman); <u>Irene Crimaldi</u> - Associate professor; <u>Massimo</u> <u>Riccaboni</u> - Full professor.

The composition and act of appointment of the Board are available on the IMT institutional website (<u>http://www.imtlucca.it/it/the-imt-school/governing-bodies-and-committees/commissione-paritetica-docenti-student</u>). From a gender representation perspective, it is to be noted that the Commission's female representation is twice as high as that of men.

### **Communication between students and the Board** took place through **three** main **channels**.

(a) The Board has reviewed three types of questionnaires administered to students: questionnaires related to individual courses, completed by students in the XXXII, XXXIII and XXXIV cycles; questionnaires related to the entire doctoral program, completed by some students in the XXXI cycle; the Good Practice project questionnaires on IMT services completed by students (along with faculty and researchers) for the years 2017 and 2018. b) Student representatives on the Board held regular consultation meetings with the student body. Their capacity as student representatives in other IMT bodies (Assessment Board, Board of Directors, Academic Senate) has facilitated their role of liaison between students and the Board. (c) The Board can also be contacted directly at this email address: commissione.paritetica@imtlucca.it, as indicated on the IMT website. The same email address is used for internal communication among Board members.

Since its inception, the Board has met eight times, six times during the 2018-19 academic year (April 29; May 20;



June 19; July 15; September 20; October 21) and twice in 2019-2020 (November 20; December 4). The results of each meeting were summarized in official **minutes**, which were each individually approved at the Board's following meeting.

The first of the Board's five meetings (April 29) was strategic and focused on establishing the Board's objectives, scope, and organization with the Chairman of the Quality Enhancement Committee (from now on: QE Committee), based on action guidelines that had been previously suggested to the Board by the QE Committee. The guidelines took into account the specificity of the academic institution in which the Board operates (IMT is a Public University School for Higher Education and Research with a special statute) and the other shareholders in the quality assurance process at IMT with whom the Board must interact. In this first meeting, the main areas of action (educational offer; student services; access to information; internal and external communications) were identified, roles and tasks were assigned, and the schedule of the following meetings was agreed upon.

The **second meeting (May 20)** was devoted to developing the methodology. The Board decided that the students' opinions would be mainly surveyed through the questionnaires on education and services that students are requested to fill out, and through the data that would emerge from the student body's regular meetings with the Board student members. The Board decided on the most appropriate timeframe for the annual report, opting for the current academic year (2018-19) with a retrospective look at previous academic years. Appropriate contacts were made with the IMT administration to provide the Board with all available documentation related to the education and service evaluation questionnaires compiled by students in previous academic years, the scheduling of lessons during previous academic years and the current academic year, and the study plans submitted by students in all cycles. To assess the situation comprehensively, the Board invited the Delegate for Didactic Activities, representatives of the PhD and Higher Education Office, and the Operational Management Group to the following meetings.

Issues relating to education and student services were specifically addressed at the **six subsequent meetings (June** 19; July 15; September 20; October 21; November 20; December 4), with particular attention to the various stages of the educational process in its entirety (individual courses and entire doctoral education) and the on-campus and off-campus services offered to students. Regarding the individual courses, the specific focus was: a) the formulation of the programs and syllabi and the time of their posting on the IMT website; b) the calendar of the lessons and final exams; (c) the total number of hours of instruction for the different doctoral tracks and their distribution during the academic year; (d) the compulsory or elective nature of the courses; (e) the methodology and timing of the final exam; (f) the methodology and timing of grade awarding and communication to the PhD and Higher Education Office by the lecturer. Regarding the entire PhD program, the focus was on: i) the role of the advisor (and co-advisor), their availability, and replacement procedures; (ii) the issues that may arise in the case of student-teacher relationship problems, if the advisor holds another higher office at IMT; (iii) the importance of providing an appropriate transcript of the academic records and accurately recording the job placement of alumni. Regarding the student services, proposals have been put forward for the improvement of academic and research support services (common study classrooms; data storage services; a desirable future computer room), residential services (canteen, lodging, communal kitchen, medical care, outdoor spaces) and non-residential services (IMT student mobility in Italy or abroad during their doctoral course of study, career counseling, and placement). Other aspects of student mobility (e.g. the regulation of the inflow of visiting students) and the whole important chapter of communication remained in the background, pending a future organic analysis and the formulation of specific proposals for improvement.

The review of these dimensions and their critical issues has resulted in a series of **communications addressed to IMT's QE Committee**, three of which have already been sent (June 21, 2019; July 16, 2019; September 25, 2019)



while a fourth, specifically concerning the role of the advisor in the doctoral course of study, is being presented. In general, the **interaction and unity of purpose** between the student members and the faculty members within the Board were excellent, as was the communication and collaboration with the other IMT bodies responsible for ensuring the quality of teaching and research (QE Committee, Assessment Board, Operational Management Group) and, more generally, with the administration of IMT. Thanks to this collective effort, the Board was able to draft this annual report on the 2018-19 academic year, with a retrospective look at previous academic years.

**This report** briefly summarizes the entire activity of the Board into **three main sections**: **Framework A:** Analysis of and proposals for the administration and application of the teaching evaluation questionnaires. **Framework B:** Analysis of the validity and proposals for the assessment of student knowledge and skills compared to expected learning outcomes. **Framework C:** Analysis of and proposals for student services (Teaching Support, Residential, and Non-Residential Services). The additional critical factor that emerged from the study undertaken by the Board in the nine months since its inception, i.e. the quality and effectiveness of IMT's internal and external communication, will be accorded special attention by the Board during the 2019-2020 academic year. Framework A analytically reviews the teaching evaluation questionnaires of the individual courses for cycles XXXIII and XXXIV. In addition to the questionnaires above, Frameworks B and C look into the critical issues that stemmed from the PhD Program evaluation questionnaires of the XXXI cycle and the 2017 and 2018 Good Practice questionnaires, together with additional input that the Board received through other channels.

#### FRAMEWORK A

## ANALYSIS OF AND PROPOSALS FOR THE ADMINISTRATION AND APPLICATION OF THE TEACHING EVALUATION QUESTIONNAIRES

<u>A1) Foreword</u>. Before analyzing the data collected through the IMT's teaching evaluation questionnaires, we wish to present a few methodological considerations.

First, the **time frame covered by the survey** includes the last two doctoral cycles (XXXIIII and XXXIV) that have already completed the first year of instruction. Thus, since the structure of the questionnaire was consistent, it was possible to develop a comparative analysis of the quality of teaching as perceived by the students, highlighting the changes underway and paying particular attention to possible future dynamics. The choice of the time frame entailed a timely analysis of the questionnaires of the most recent courses of the XXXIV cycle, which were completed in October 2019. We believe that the ability to provide timely feedback to the IMT governing bodies is a necessary precondition for the implementation of corrective actions to improve the quality of doctoral education. Thus, the Board has worked toward ensuring that some significant changes in the way the educational offering is managed, such as course scheduling early at the beginning of the cycle and the distribution of the syllabi before the study plan submission, would be introduced as early as the XXXV doctoral cycle.

Secondly, **the small size of the student body and therefore the low number of teaching evaluation questionnaires administered and completed** is a methodological issue: for almost all courses the number of responses is not statistically significant; in some cases, the number of students is so low it puts their anonymity at great risk, potentially inducing a bias in the survey and further reducing the quality of the information collected by the questionnaires. In this regard, it should also be noted that micro classes (courses with fewer than three students) are



often composed of students who choose a specialist course because of a specific research and study path focused on



their thesis. Therefore, it is not uncommon for a lecturer of such courses to also be the advisor or co-advisor to students in the classroom.

During the XXXIII cycle, an average of 8.68 questionnaires was administered per course, with an average of 4.72 responses per course (response rate of 54%). In the following cycle, the number of questionnaires administered per course decreased to 7.45, with an increase in the average number of responses per course (5.10, 68% response rate). If, on the one hand, the increase in the response rate is an important indication of greater student participation in the quality assessment, it should be noted that the growing specialization of the educational offer has further reduced the number of surveys per course. Keeping the number of students selected in the two doctoral cycles constant, the reduction in the average number of students per course can be explained by the increase in the educational offer: in the XXXIII cycle, 64 courses (12 of which were offered to both doctoral programs) articulated on 92 teaching modules were surveyed, while in the XXXIV cycle, the survey covered 77 courses (6 of which are offered to both doctoral programs) articulated on 99 teaching modules. Although the number of lecturers has not changed significantly in the two cycles (61 in the XXXIII cycle, 59 in the XXXIV cycle), it is worth noting how the number of teaching modules assigned to external lecturers has decreased: from 29 in the XXXIII cycle to 19 in the following cycle. Overall, IMT has implemented a policy of increasing specialization of the educational offer which has consequently reduced the size of the classes. As reported in Table 1, a quarter of the courses taught at IMT during the XXXIV cycle had fewer than four participating students. Such a distribution of students per course, together with the low - albeit increasing - response rate to the administered questionnaires implies that the evaluation of the educational offer for more than 25% of the courses provided by IMT is based on no more than two completed questionnaires, a decidedly insufficient number for any type of statistical survey. To overcome the methodological problems due to the small size of classes, we have analyzed statistical aggregates larger than a single course, such as doctoral tracks and groups of courses similar in number and content, to identify statistically significant trends and results, which are more useful to improve the overall quality of teaching.

By extending these considerations to the methodology adopted for the assessment of the quality, we consider appropriate to combine the use of questionnaires, which, as mentioned, is weakened by the low numbers, with **other tools for collecting opinions on an aggregate basis** (for example about the overall educational offer of a term or cycle), increasing the use of free-text questions compared to numerical surveys.

| 2            | XXX | III Cyc | le      |          |               | XXXI | V Cycl | е      |         |
|--------------|-----|---------|---------|----------|---------------|------|--------|--------|---------|
|              |     |         | -       |          |               |      |        |        | Tot .   |
|              |     |         | I       | ot       |               |      |        | questi | onnaire |
|              | Cοι | irses   | questic | onnaires |               | Co   | urses  |        | S       |
| No. of       |     |         |         |          | No. of        |      |        |        |         |
| questionnair | Ν   | Cu      |         |          | questionnaire | Ν    |        |        |         |
| es           | 0.  | m       | No.     | Cum      | S             | о.   | Cum    | No.    | Cum     |
| 1            | 1   | 0,02    | 1       | 0,00     | 1             | 3    | 0,04   | 3      | 0,01    |
| 2            | 3   | 0,06    | 6       | 0,01     | 2             | 5    | 0,1    | 10     | 0,02    |
|              |     | •       |         | ,        |               | 1    |        |        | •       |
| 3            | 4   | 0,13    | 12      | 0,03     | 3             | 1    | 0,25   | 33     | 0,08    |
| 4            | 6   | 0,22    | 24      | 0,08     | 4             | 3    | 0,29   | 12     | 0,10    |
| 5            | 6   | 0,31    | 30      | 0,13     | 5             | 6    | 0,36   | 30     | 0,15    |

## Tabella 1. Percentage distribution of courses by number of questionnaires administered, XXXIII and XXXIV cycles



| IMT | FOI<br>Stl | HOOL<br>R ADV<br>JDIES<br>CCA | ANCE | D    |    |   |      |     |      |
|-----|------------|-------------------------------|------|------|----|---|------|-----|------|
|     | 76         | 0,42                          | 42   | 0,22 | 7  | 7 | 0,51 | 49  | 0,28 |
| 8   | 8 2<br>2   | 0,45                          | 16   | 0,25 | 8  | 7 | 0,73 | 136 | 0,52 |
| 9   | 90<br>1    | 0,77                          | 180  | 0,57 | 9  | 6 | 0,81 | 54  | 0,61 |
| >   | -          | 1                             | 239  | 1,00 | >9 | 5 | 1    | 223 | 1,00 |

Legend:

Each row corresponds to a given number of questionnaires administered or filled per course.

"No. of Courses" indicates the number of courses with a given number of questionnaires.

"Cum Courses" indicates the cumulative percentage of courses with a given number of questionnaires

"Tot No. of questionnaires" indicates the number of total questionnaires for classes with a given number of students. It is obtained by multiplying the first two columns.

"Tot cum questionnaires" indicates the cumulative percentage of the number of questionnaires.

## Table 2. Percentage distribution of courses by number of responses, XXXIII and XXXIV cycles

|           | XXX | III Cyc | le   |           |           | XXX | IV Cyc | le        |      |
|-----------|-----|---------|------|-----------|-----------|-----|--------|-----------|------|
|           |     |         |      | Tot       |           |     |        |           | Tot  |
|           |     |         | ques | tionnaire |           |     | ques   | tionnaire |      |
|           | Cou | urses   |      | S         |           | Cοι | urses  |           | S    |
| No. of    | No  |         |      |           | No. of    | No  |        |           |      |
| Responses | •   | Cum     | No.  | Cum       | Responses |     | Cum    | No.       | Cum  |
| 1         | 9   | 0,14    | 9    | 0,03      | 0 o 1     | 7   | 0,09   | 6         | 0,02 |
| 2         | 10  | 0,30    | 20   | 0,10      | 2         | 13  | 0,26   | 26        | 0,08 |
| 3         | 6   | 0,39    | 18   | 0,16      | 3         | 10  | 0,39   | 30        | 0,16 |
| 4         | 8   | 0,52    | 32   | 0,26      | 4         | 8   | 0,49   | 32        | 0,24 |
| 5         | 10  | 0,67    | 50   | 0,43      | 5         | 11  | 0,64   | 55        | 0,38 |
| 6         | 7   | 0,78    | 42   | 0,57      | 6         | 6   | 0,71   | 36        | 0,47 |
| 7         | 7   | 0,89    | 49   | 0,73      | 7         | 12  | 0,87   | 84        | 0,69 |
| 8         | 2   | 0,92    | 16   | 0,78      | 8         | 3   | 0,91   | 24        | 0,75 |
| 9         | 1   | 0,94    | 9    | 0,81      | 9         | 3   | 0,95   | 27        | 0,82 |
| >9        | 4   | 1,00    | 57   | 1,00      | >9        | 4   | 1,00   | 72        | 1,00 |

Given IMT's interdisciplinary educational offer, one last methodological consideration relates to **how courses are assigned to specific PhD programs and tracks.** It is not uncommon for some courses to be offered to multiple PhD programs or tracks. The structure of the educational offer, summarized in Table 3, is distinguished by a high degree of transversality between PhD programs, which offer many joint courses both to their tracks and across programs. Over time, the division of IMT's unique doctoral program into two separate doctorates in Cognitive and Cultural Systems (CSS) and Systems Science (SS) has resulted in greater collaboration between tracks of the same doctoral program, Analysis and Management of Cultural Heritage (AMCH) and Cognitive, Computational and Social Neurosciences (CCSN) respectively in the CSS Doctorate; Computer Science and Systems Engineering (CSSE) and Economics, Networks and Business Analytics (ENBA) in the SS. Despite the increase in joint courses across PhD tracks over time, as mentioned above, the size of classes has decreased on average. The cross-analysis of study plans also shows that the selection of optional courses related to other tracks occurs sporadically. Course attendance, even for



courses open to multiple tracks, still shows a class composition dominated by students from a specific track, with rare

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exceptions. Therefore, to analyze the quality of the educational offer, it was decided to aggregate the courses by track. Joint courses have been assigned to a specific track according to the following criteria:

- Composition of the class according to the study plans: when a joint course was attended exclusively by students of a specific track, it was assigned to the track to which the students belong.
- In the case of mixed classes with students from multiple tracks, the course was assigned to the track of the majority of the students.
- In the rare cases when the class had a balanced composition of students of multiple tracks, the course was assigned to the lecturer's reference track.

Overall, the ENBA track is the doctoral program with the most courses, followed by CSSE, AMCH, and

#### CCSN.

As a result, the number of questionnaires administered to students of the PhD program in Systems Science (and the ENBA track in particular) is significantly higher for both cycles than the PhD program in Cognitive and Cultural Systems. As the number of questionnaires administered increases, the response rate decreases, with the ENBA track showing the lowest rate (61%), whereas the AMCH track has the highest response rate (79.4%). Despite the response rate increasing significantly between the two cycles (25.7%), as mentioned above, as the educational offer increases, the number of students per class decreases, and more questionnaires per student are administered, with possible negative impacts on response rates. Overall, however, the response rate for the SS tracks seems to have increased to a greater extent, aligning with the average higher response rates of the CSS tracks.

### Table 3. Shared courses among PhD tracks, XXXIII and XXXIV cycles

| XXXIII |           |         |    | Cyc  | le   |      |      |
|--------|-----------|---------|----|------|------|------|------|
|        | PhD Track | Courses |    | AMCH | CCSN | CSSE | ENBA |
|        | AMCH      |         | 18 | 10   | 9    | 2    | 2    |
|        | CCSN      |         | 23 |      | 5    | 7    | 10   |
|        | CSSE      |         | 25 |      |      | 10   | 13   |
|        | ENBA      |         | 31 |      |      |      | 13   |
|        |           |         |    |      |      |      |      |
| XXXIV  |           |         |    | Cycl | е    |      |      |
|        | PhD Track | Courses |    | AMCH | CCSN | CSSE | ENBA |
|        | AMCH      |         | 28 | 12   | 16   | 3    | 4    |
|        | CCSN      |         | 26 |      | 8    | 5    | 5    |
|        | CSSE      |         | 30 |      |      | 9    | 20   |
|        | ENBA      |         | 35 |      |      |      | 14   |
|        |           |         |    |      |      |      |      |

### Table 4.Number of questionnaires and response rate per PhD track, XXXIII and XXXIV cycles

|       | XXXIII       | Cycle  |          | XX           | XXXIV Cycle |          |             |  |  |
|-------|--------------|--------|----------|--------------|-------------|----------|-------------|--|--|
|       | No. of       |        |          | No. of       |             |          |             |  |  |
| PhD   | questionnair | respon | response | questionnair | respon      | response |             |  |  |
| Track | es           | ses    | %        | es           | ses         | %        | Growth rate |  |  |



| AMCH  | 99  | 55  | 55,6% | 102 | 81  | 79,4% | 42,9% |
|-------|-----|-----|-------|-----|-----|-------|-------|
| CCSN  | 119 | 74  | 62,2% | 140 | 91  | 65,0% | 4,5%  |
| CSS   | 218 | 129 | 59,2% | 242 | 172 | 71,1% | 20,1% |
| CSSE  | 116 | 69  | 59,5% | 132 | 98  | 74,2% | 24,8% |
| ENBA  | 222 | 104 | 46,8% | 200 | 122 | 61,0% | 30,2% |
| SS    | 338 | 173 | 51,2% | 332 | 220 | 66,3% | 29,5% |
| Total | 556 | 302 | 54,3% | 574 | 392 | 68,3% | 25,7% |

<u>A2) Analysis</u>. Once the preliminary survey of the data has been completed and the most relevant methodological elements have been clarified, we are now going to analyze the results of the teaching evaluation questionnaires. To facilitate the interpretation of the results, the ratings - which were based on a Likert scale (a unit scale ranging from -2 'strongly disagree' to 2, 'strongly agree') - were translated into percentage values calculated as the ratio of the average of the ratings to the maximum achievable value.

The following tables show the degree of satisfaction as a percentage value in combination with the distribution of the ratings. Tables 5 and 6 show the number of overall student ratings, respectively for the XXXIII and XXXIV cycles, divided by PhD program and track. The last column in Table 6 includes a measure of the percentage variation in the average rating calculated as the difference between the equivalent average values for the two cycles.

| Track/Program | Strongly<br>Agree | Agree | Neutra<br>I | Disagre<br>e | Strongly<br>Disagre | Average rating (%) |
|---------------|-------------------|-------|-------------|--------------|---------------------|--------------------|
|               |                   |       |             |              | е                   |                    |
| AMCH          | 340               | 208   | 116         | 35           | 18                  | 78,49%             |
| CCSN          | 375               | 279   | 235         | 66           | 37                  | 72,40%             |
| CSS           | 715               | 487   | 351         | 101          | 55                  | 74,96%             |
| CSSE          | 473               | 198   | 65          | 4            | 4                   | 88,04%             |
| ENBA          | 423               | 413   | 178         | 31           | 13                  | 78,40%             |
| SS            | 896               | 611   | 243         | 35           | 17                  | 82,38%             |
| Total         | 1611              | 1098  | 594         | 136          | 72                  | 78,77%             |

# Table 5. Ratings on the quality of teaching and educational offer for IMT's PhD programs,XXXIII cycle. Aggregated ratings per track and PhD program

## Table 6. Ratings on the quality of teaching and educational offer for IMT's PhD programs,XXXIV cycle. Aggregated ratings per track and PhD program

| Track/  | Strongly |       |         |          | Strongly | Average    | Variation |
|---------|----------|-------|---------|----------|----------|------------|-----------|
| Program | Agree    | Agree | Neutral | Disagree | Disagree | rating (%) | (%)       |
| AMCH    | 477      | 236   | 142     | 62       | 11       | 79,80%     | 1,31%     |
| CCSN    | 504      | 410   | 150     | 37       | 37       | 78,71%     | 6,31%     |
| CSS     | 981      | 646   | 292     | 99       | 48       | 79,20%     | 4,24%     |
| CSSE    | 666      | 279   | 100     | 7        | 0        | 88,12%     | 0,08%     |
| ENBA    | 492      | 479   | 160     | 38       | 9        | 79,86%     | 1,46%     |

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|-------|--|------|-----|-----|----|--------|-------|--|--|
| SS    | 1158                                       | 758  | 260 | 45  | 9  | 83,76% | 1,37% |  |  |
| Total | 2139                                       | 1404 | 552 | 144 | 57 | 81,56% | 2,80% |  |  |

Overall, the perception of the quality of the teaching has improved, from an average rating of 78.77% to 81.56%, with an increase of 2.8 percentage points. The increase in quality regarded all PhD program tracks, involving the CCSN track to a greater extent, followed by ENBA. Comparing the two PhD programs, we notice a decrease in the difference between the ratings of the SS program, from 82.38% to 83.76% satisfaction, and those of the CSS program, increasing from 74.96% to 79.20%. Although the differences between the two PhD programs have narrowed over time, there is still a gap of more than 4 percentage points in favor of the SS program, which can be explained through the analysis of particularly unfavorable ratings ("Disagree" and "Strongly Disagree"). For the XXXIV cycle, the SS program has only 54 unfavorable ratings out of a total of 2230 ratings (2.4%), almost all concerning the ENBA track, while the CSS program records 147 unfavorable ratings out of 2066 total ratings (7.1%). In the overall assessment, the percentage of unfavorable ratings is about three times higher for the CSS program.

At the individual track level, the CSSE track is consistently the most appreciated with a satisfaction rating of 88.12%, followed by ENBA (79.86%), AMCH (79.80%) CCSN (78.71%). Although, as already noted, the differences have narrowed over time, the percentage gap between the CSSE track and the other three tracks remains substantial and needs more in-depth analysis.

By dividing the questionnaires into their two main parts, it is possible to separate the assessment of the quality of teaching and lecturers (Tables 7 and 8) from that of the educational offer and courses (Tables 9 and 10). First of all, it is evident that the greatest issues are related to the quality of the courses offered: the rating of the quality of the teaching (84% for the XXXIV cycle) is higher than that of the educational offer (79.55% in the XXXIV cycle) by as much as 4.45 percentage points, and that differential is consistent across all PhD programs and tracks.

|         |          |       |         |         | Strongly |            |
|---------|----------|-------|---------|---------|----------|------------|
| Track/  | Strongly |       |         | Disagre | Disagre  | Average    |
| Program | Agree    | Agree | Neutral | е       | е        | rating (%) |
| AMCH    | 181      | 118   | 64      | 16      | 9        | 78,74%     |
| CCSN    | 219      | 141   | 156     | 31      | 1        | 74,91%     |
| CSS     | 400      | 259   | 220     | 47      | 10       | 76,50%     |
| CSSE    | 234      | 74    | 19      | 1       | 3        | 90,41%     |
| ENBA    | 190      | 174   | 59      | 10      | 3        | 80,85%     |
| SS      | 424      | 248   | 78      | 11      | 6        | 84,97%     |
| Total   | 824      | 507   | 298     | 58      | 16       | 80,31%     |

Table 7. Ratings on the quality of teaching for IMT's PhD programs, XXXIII cycle.Aggregated ratings per track and PhD program

## Table 8. Ratings on the quality of teaching for IMT's PhD programs, XXXIV cycle. Aggregated ratings per track and PhD program

| Track/  | Strongly |       |         | Disagre | Strongly<br>Disagre | Average    | Variation |
|---------|----------|-------|---------|---------|---------------------|------------|-----------|
| Program | Agree    | Agree | Neutral | e       | e                   | rating (%) | (%)       |
| AMCH    | 222      | 94    | 57      | 22      | 5                   | 81,63%     | 2,89%     |

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| CCSN  | 297  | 216 | 46  | 12 | 21 | 81,93% | 7,02% |
|-------|------|-----|-----|----|----|--------|-------|
| CSS   | 519  | 310 | 103 | 34 | 26 | 81,80% | 5,31% |
| CSSE  | 330  | 99  | 31  | 4  | 0  | 90,68% | 0,27% |
| ENBA  | 220  | 206 | 45  | 15 | 2  | 82,12% | 1,27% |
| SS    | 550  | 305 | 76  | 19 | 2  | 86,29% | 1,32% |
| Total | 1069 | 615 | 179 | 53 | 28 | 84,00% | 3,69% |

| Table 9. Ratings on the quality of the education  | nal offer for IMT's PhD programs, XXXIII |
|---|--|
| cycle. Aggregated ratings per track and PhD progr | am                                       |

| -9: | gregated ratings | per track |      | o prograi |         |          |            |
|-----|------------------|-----------|------|-----------|---------|----------|------------|
|     | Track/           | Strongly  | Agre | Neutral   | Disagre | Strongly | Average    |
|     | Program          | Agree     | е    |           | е       | Disagre  | rating (%) |
|     |                  |           |      |           |         | е        |            |
|     | AMCH             | 159       | 90   | 52        | 19      | 9        | 78,19%     |
|     | CCSN             | 156       | 138  | 79        | 35      | 36       | 69,31%     |
|     | CSS              | 315       | 228  | 131       | 54      | 45       | 73,09%     |
|     | CSSE             | 239       | 124  | 46        | 3       | 1        | 86,14%     |
|     | ENBA             | 233       | 239  | 119       | 21      | 10       | 76,69%     |
|     | SS               | 472       | 363  | 165       | 24      | 11       | 80,46%     |
|     | Total            | 787       | 591  | 296       | 78      | 56       | 77,31%     |
|     |                  |           |      |           |         |          |            |

### Table 10. Ratings on the quality of the educational offer for IMT's PhD programs, XXXIV cycle. Aggregated ratings per track and PhD program

|         |          |       | -       |         |          |            |           |
|---------|----------|-------|---------|---------|----------|------------|-----------|
| Track/  | Strongly | Agree | Neutral | Disagre | Strongly |            |           |
| Program | Agree    |       |         | е       | Disagre  | Average    | Variation |
| 2       | -        |       |         |         | e        | rating (%) | (%)       |
| AMCH    | 255      | 142   | 85      | 40      | 6        | 78,41%     | 0,22%     |
| CCSN    | 207      | 194   | 104     | 25      | 16       | 75,23%     | 5,92%     |
| CSS     | 462      | 336   | 189     | 65      | 22       | 76,79%     | 3,70%     |
| CSSE    | 336      | 180   | 69      | 3       | 0        | 86,10%     | -0,04%    |
| ENBA    | 272      | 273   | 115     | 23      | 7        | 78,26%     | 1,57%     |
| SS      | 608      | 453   | 184     | 26      | 7        | 81,87%     | 1,41%     |
| Total   | 1070     | 789   | 373     | 91      | 29       | 79,55%     | 2,24%     |
|         |          |       |         |         |          |            |           |

In addition, the quality of the educational offer registered a lower growth rate than that of the quality of teaching (+ 2.24% against + 3.69%). From the comparison between the data in Table 10 and Table 8, it is evident that around the quality of the educational offer there is a greater difference between PhD programs (+5.08 percentage points for SS compared to + 3.20% about teaching) and between tracks (+12.87 pp for CSSE on CCSN compared to +8.75 pp about teaching). The evidence shows the need for improvement actions, starting from the XXXV cycle, focusing on the rationalization and improvement of the educational offer. Moving on to a specific examination of the individual questions, it emerges that the ratings for the quality of teaching of the two PhD programs never falls below 80% in cycle XXXIV, while lower values are registered for the questions related to the quality of the courses below:

- 1. Was the course relevant and useful for my research project?
- 2. Was the course well organized?
- 3. Have the assigned tasks been adequate?
- 4. Was the examination methodology appropriate?

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The question that shows the most unfavorable ratings is the one concerning the relevance of the course for the PhD student research project (Table 11). Many CCS students answer this question neutrally or negatively with an aggregate rating of 66.76%, the lowest rating recorded among all the questions and for all tracks. This score is particularly critical for the AMCH track which shows a slightly negative variation between the XXXIII and XXXIV cycles, starting from an already low level of satisfaction. This is mainly because, in the process of selecting students for the PhD program, IMT does not require a welldefined and structured research project, but a motivational letter in which applicants include their research interests except for the AMCH track. For this reason, the first year is exclusively dedicated to lessons and exams, leaving little room for the real research work that starts later. Many students answer this question by indicating in the free text that they do not yet have a defined research project. Hence, the need to review the structure of the questionnaire and to question if it is correct to measure the quality of the courses according to the usefulness for the students' research project, given the interdisciplinary education that IMT strives to offer to its students that allows the definition of research questions from a broader perspective, transversal to the different disciplines.

| Table 11. Ratings on the relevance and usefulness of a course for the student research |
|--|
| project, XXXIV cycle. Aggregated ratings per track and PhD program                     |

| Track/  | Strongly | Agre | Neutral | Disagree | Strongly | Average rating | Variation |
|---------|----------|------|---------|----------|----------|----------------|-----------|
| Program | Agree    | e    |         | -        | Disagree | (%)            | (%)       |
| AMCH    | 29       | 18   | 26      | 13       | 2        | 66,76%         | -0,37%    |
| CCSN    | 24       | 29   | 26      | 8        | 4        | 66,76%         | 11,69%    |
| CCS     | 53       | 47   | 52      | 21       | 6        | 66,76%         | 6,60%     |
| CSSE    | 49       | 38   | 11      | 0        | 0        | 84,69%         | 1,00%     |
| ENBA    | 41       | 47   | 22      | 2        | 3        | 76,30%         | 7,49%     |
| SS      | 90       | 85   | 33      | 2        | 3        | 80,16%         | 5,45%     |
| Total   | 143      | 132  | 85      | 23       | 9        | 74,04%         | 5,50%     |

Similarly, there is a low level of satisfaction with the quality of the organization of the courses (Table 12), even if on less negative values than those recorded in the previous question. In this respect, the most unfavorable ratings pertain to the CCSN track (average rating of 71.43%).

| Table 12. Ratings on the course organization, X | XXIV cycle. Aggregated ratings per track and |
|---|--|
| PhD program                                     |  |

| Track/<br>Program | Strongly<br>Agree | Agre<br>e | Neutral | Disagre<br>e | Strongly<br>Disagre | Average<br>rating (%) | Variation<br>(%) |
|-------------------|-------------------|-----------|---------|--------------|---------------------|-----------------------|------------------|
|                   |                   |           |         |              | е                   |                       |                  |
| AMCH              | 40                | 25        | 16      | 7            |                     | 77,84%                | -1,25%           |
| CCSN              | 33                | 33        | 11      | 7            | 7                   | 71,43%                | 2,85%            |
| CCS               | 73                | 58        | 27      | 14           | 7                   | 74,58%                | 1,52%            |
| CSSE              | 59                | 28        | 11      | 0            | 0                   | 87,24%                | 1,74%            |
| ENBA              | 34                | 55        | 20      | 5            | 1                   | 75,22%                | -3,15%           |
| SS                | 93                | 83        | 31      | 5            | 1                   | 80,75%                | -0,46%           |
| Total             | 166               | 141       | 58      | 19           | 8                   | 77,93%                | 0,20%            |

An additional, albeit minor, issue is the adequacy of the assigned tasks, especially for the ENBA track, which records the worst performances on this dimension with a net drop compared to the XXXIII cycle (Table 13).



# Table 13. Ratings on the adequacy of the assigned tasks, XXXIV cycle. Aggregated ratings per track andPhD program

| Track/<br>Program | Strongly<br>Agree | Agree | Neutral | Disagre<br>e | Strongly<br>Disagre | Average<br>rating (%) | Variation (%) |
|-------------------|-------------------|-------|---------|--------------|---------------------|-----------------------|---------------|
|                   |                   |       |         |              | e                   |                       |               |
| AMCH              | 47                | 26    | 9       | 4            | 2                   | 81,82%                | 1,82%         |
| CCSN              | 38                | 28    | 23      | 1            | 1                   | 77,75%                | 5,79%         |
| CCS               | 85                | 54    | 32      | 5            | 3                   | 79,75%                | 4,36%         |
| CSSE              | 47                | 33    | 18      | 0            | 0                   | 82,40%                | -4,20%        |
| ENBA              | 37                | 40    | 29      | 7            | 2                   | 72,39%                | -4,77%        |
| SS                | 84                | 73    | 47      | 7            | 2                   | 77,00%                | -3,93%        |
| Total             | 169               | 127   | 79      | 12           | 5                   | 78,25%                | -0,31%        |

Finally, an additional area of possible intervention concerns the examination methodology, which is not optimal for some courses, in particular in the CCSN and ENBA tracks (Table 14).

## Table 14. Ratings on the examination methodology, XXXIV cycle. Aggregated ratings per track and PhD program

| Track/<br>Program | Strongly<br>Agree | Agree | Neutral | Disagre<br>e | Strongly<br>Disagre | Average<br>rating (%) | Variation<br>(%) |
|-------------------|-------------------|-------|---------|--------------|---------------------|-----------------------|------------------|
|                   |                   |       |         | -            | е                   |                       |                  |
| AMCH              | 46                | 21    | 16      | 4            | 1                   | 80,40%                | 3,13%            |
| CCSN              | 31                | 31    | 26      | 3            | 0                   | 74,73%                | 6,48%            |
| CCS               | 77                | 52    | 42      | 7            | 1                   | 77,51%                | 5,42%            |
| CSSE              | 46                | 26    | 26      | 0            | 0                   | 80,10%                | -1,15%           |
| ENBA              | 39                | 41    | 30      | 5            | 0                   | 74,78%                | 4,24%            |
| SS                | 85                | 67    | 56      | 5            | 0                   | 77,23%                | 2,38%            |
| Total             | 162               | 119   | 98      | 12           | 1                   | 77,36%                | 3,70%            |

One element that partially explains the difference between the ratings of the PhD programs is the different number of students who make up the classes on average. As highlighted in Table 15, the CSS program has eight students per class on average and consequently has a greater number of answers per course. Conversely, in the SS program, the median number of completed questionnaires per course is 3.

These discrepancies are due to the different structure of the doctoral tracks regarding the compulsory character of the courses. The AMCH track, which courses are compulsory for all students, and the CSSE one, which on the other hand has only elective courses are at the two opposite ends. Besides, CSSE provides significantly fewer hours of compulsory classes compared to the other three doctoral tracks.

### Table 15. Course distribution by number of questionnaires administered and responses received, divided



by doctoral programs, XXXIV cycle. The horizontal line indicates the median number of students per course

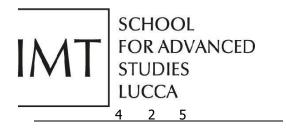
|    | No. o      | fadminis | stered q | uestionn | aires | No. of responses |     |      |   |       |  |
|----|------------|----------|----------|----------|-------|------------------|-----|------|---|-------|--|
|    | CS         | SS       | S        | S        |       | CS               | S   |      |   |       |  |
|    | AMC CCS CS |          |          |          |       | AMC              | CCS |      |   |       |  |
|    | Н          | Ν        | E        | ENBA     | Total | Н                | Ν   | CSSE | А | Total |  |
| 0  |            |          |          |          |       |                  |     |      | 1 | 1     |  |
| 1  |            |          | 2        | 1        | 3     |                  |     | 3    | 3 | 6     |  |
| 2  |            | 2        | 1        | 2        | 5     |                  | 4   | 2    | 7 | 13    |  |
| 3  |            | 1        | 6        | 4        | 11    | 1                | 1   | 5    | 3 | 10    |  |
| 4  | 1          | 1        |          | 1        | 3     | 1                | 2   | 2    | 3 | 8     |  |
| 5  |            | 1        | 2        | 3        | 6     | 2                | 3   | 3    | 3 | 11    |  |
| 6  |            |          | 2        | 2        | 4     | 1                |     | 2    | 3 | 6     |  |
| 7  |            | 2        | 2        | 3        | 7     | 7                | 1   | 1    | 3 | 12    |  |
| 8  | 11         | 1        |          | 5        | 17    | 2                | 1   |      |   | 3     |  |
| 9  | 2          | 4        |          |          | 6     |                  | 2   |      | 1 | 3     |  |
| >9 |            | 4        | 4        | 7        | 15    |                  | 2   | 1    | 1 | 4     |  |

By analyzing the distribution of responses by the number of questionnaires administered and completed, we can better appreciate how the most unfavorable ratings hail from courses with larger numbers of students. Table 16 shows how, for classes with a limited number of students, the series of negative ratings ("Strongly Disagree" and "Disagree") does not emerge. This is presumably due to the combination of two factors:

- 1. The first factor is purely probabilistic in nature: if highly negative ratings are rare, a large number of questionnaires is required so that they can become visible. This first aspect is what prompted us to analyze only aggregated data at least at the doctoral track level to capture statistically significant data on the quality of teaching.
- 2. The second factor concerns the confidentiality of the responses: in classes where the number of students is especially low, the guarantee of anonymity in completing the questionnaires may be compromised, and students express negative opinions more infrequently, opting instead for blank questionnaires or neutral ratings.

Table 16. Distribution of ratings by number of questionnaires administered for each of the six questions concerning the course evaluation. The line indicates the minimum number of questionnaires in which you begin to observe negative responses (Disagree, "D" or Strongly Disagree "SD")

| (            | Questi | on 1 |   |   | Question 2 |              |    |   |   |      |  |
|--------------|--------|------|---|---|------------|--------------|----|---|---|------|--|
| No.          |        |      |   |   | S          | No.          |    |   |   |      |  |
| administered | SA     | Α    | Ν | D | D          | administered | SA | А | Ν | D SD |  |
| 1            | 1      | 2    |   |   |            | 1            | 2  | 1 |   |      |  |
| 2            | 4      | 6    |   |   |            | 2            | 6  | 4 |   |      |  |
| 3            | 18     | 4    | 1 |   |            | 3            | 18 | 5 |   |      |  |



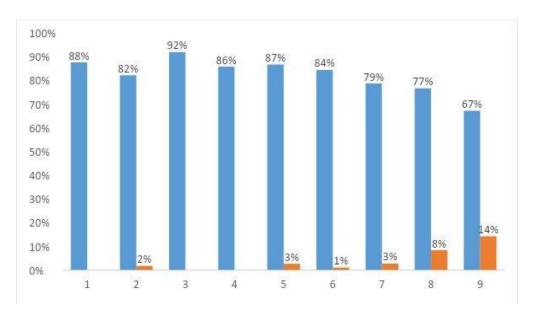
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|---|--|----------|----------|---------|---------|--------|-------|------------|---------------|-----------------|----------------|----------|--------|-----------|--|
| - | 5  | 13       | 3        | 2       |         | 1      |       |            | 5             | 13              | 6              |          |        |           |  |
|   | 6<br>7                                     | 10<br>13 | 6<br>18  | 1       |         |        | _     |            | <u>6</u><br>7 | <u>11</u><br>14 | <u>6</u><br>12 | 3        | 2      |           |  |
|   | 8  | 13<br>40 | 10<br>35 | 13      | 5       | 1      |       |            | 8             | 14<br>44        | 12<br>34       | 10       | 2<br>6 |           |  |
|   | 9  | 9        | 18       | 7       | 5       | 2      |       |            | 9             | 20              | 15             | 3        | 2      | 1         |  |
|   | >9   | 82       | 53       | 8       | 4       |        |       |            | >9            | 106             | 34             | 5        | 1      | 1         |  |
|   |  |          |          |         |         | Quest  | ion 4 |            |               |                 |                |          |        |           |  |
|   | No.  | ~ •      |          |         | -       | S      |       | No.        |               | ~ •             |                |          |        |           |  |
| - | administered                               | SA<br>1  | A<br>2   | Ν       | D       | D      |       | administer |               | SA<br>1         | A<br>2         | Ν        | DS     | 5D        |  |
|   | 1  | 1<br>4   | 2        | 3       |         |        |       |            | 1<br>2        | 2               | 2<br>7         | 1        |        |           |  |
|   | 3  | 16       | 7        | 5       |         |        |       |            | 3             | 17              | 5              | 1        |        |           |  |
| - | 4  | 3        | 2        | 2       |         |        |       |            | 4             | 3               | 4              |          |        |           |  |
|   | 5  | 8        | 7        | 3       |         | 1      |       |            | 5             | 9               | 9              |          | 1      |           |  |
|   | 6<br>7                                     | 6<br>12  | 9<br>12  | 2<br>6  | 1       |        |       |            | 6<br>7        | 9<br>10         | 6              | 1        | 1      |           |  |
|   | 8  | 31       | 23       | 6<br>26 | 1<br>12 | 2      |       |            | 8             | 10<br>34        | 13<br>31       | 8<br>23  | 6      |           |  |
|   | 9  | 7        | 12       | 14      | 4       | 4      |       |            | 9             | 10              | 7              | 12       | 6      | 6         |  |
|   | >9   | 55       | 55       | 29      | 6       | 2      |       |            | >9            | 71              | 57             | 12       | 5      | 2         |  |
| - |  | Oues     | stion !  | 5       |         |        |       |            |               | Questi          | ion 6          |          |        |           |  |
|   | No.  | -        |          |         |         | S      |       | No.        |               | -               |                |          |        |           |  |
| - | administered                               | SA       | A        | Ν       | D       | D      |       | administer | ed            | SA              | A              | Ν        | D S    | <u>SD</u> |  |
|   | 1  | 2        | 1        |         |         |        | -     |            | <u>1</u><br>2 | 2               | 1              | 1        | 1      |           |  |
|   | 2<br>3                                     | 4<br>17  | 6<br>4   | 2       |         |        |       |            | 2<br>3        | 4<br>15         | 4<br>4         | 1<br>4   | 1      |           |  |
|   | 4  | 4        | 3        | 2       |         |        |       |            | 4             | 4               | 3              | т        |        |           |  |
|   | 5  |          | 7        | 1       |         |        |       |            | 5             | 13              |                |          |        |           |  |
| - | 6  | 7        | 7        | 3       |         |        | •     |            | 6             | 7               | 7              | 3        |        |           |  |
|   | 7  | 10       | 13       | 7       | 1       |        |       |            | 7             | 12              | 8              | 10       | 1      |           |  |
|   | 8  | 47       | 25       | 14      |         | 1      |       |            | 8             | 43              | 26             | 18       | 7      |           |  |
|   | 9<br>>9                                    | 10<br>57 | 20<br>41 | 8<br>44 | 1<br>3  | 2<br>2 |       |            | 9<br>>9       | 7<br>55         | 21<br>39       | 11<br>51 | 1<br>2 | 1         |  |
|   | rend: SA = Stro                            |          |          |         |         |        | - N   |            |               |                 |                |          |        | )icaaro   |  |

Legend: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Diagram 1. Average degree of satisfaction with the variation of the number of students per course (in blue) and percentage of negative ratings (Strongly Disagree + Disagree) (in orange)





Focusing on the aggregate of the average course rating by the number of students and the percentage of negative ratings, i.e. "Disagree" or "Strongly Disagree" type, it is evident that the average satisfaction rate falls below 80% for classes with more than eight students and the percentage of dissatisfied students grows simultaneously in these classes. Since the number of students per track varies between 7 and 9, this relationship between the number of classes and the degree of satisfaction is probably due to the compulsory nature of several courses for an entire track, which limits the student's choice and translates in a higher percentage of negative ratings, especially regarding the usefulness of the course for their research project and the workload deemed excessive. The analysis of the quality of teaching by class size, which we do not report here for reasons of brevity, shows a similar trend, proving that class size is a factor influencing the perceived quality of a course and transcending the lecturer, the track or the PhD program.

Consequently, to increase the quality of teaching, more flexibility in completing the study plans and greater freedom in selecting the courses are recommended. These would enable the students, with the assistance of their advisors, to select from a wider range of optional courses which - notwithstanding the compulsory nature of those courses which are fundamental to obtaining the doctoral degree - are more in line with their research and study interests and the research projects they will develop at the beginning of their second year. The involvement of the advisor in the selection of the course of study ensures that the chosen courses better align with the student's educational needs.

The Board has suggested the introduction of some enhancements, starting from the XXXV cycle, especially about the early formulation of the class schedule and the availability of the course syllabi, with details about learning objectives, study loads and examination methodology, to provide students with all the information necessary for a more informed choice about their study plan, with the advisor's support.



FRAMEWORK B

MT SCHOOL FOR ADVANCED STUDIES LUCCA

### ANALYSIS OF THE VALIDITY AND PROPOSALS FOR THE ASSESSMENT OF STUDENT KNOWLEDGE AND SKILLS COMPARED TO EXPECTED LEARNING OUTCOMES

Some critical issues observed **in the academic years preceding 2019-20** are listed below; in the Board's opinion, some of them may be resolved through the proposals described under each issue.

B1) Lack of an **attendance log** and consequent impossibility to check the fulfillment of the study plans and to obtain official certificates of attendance from the PhD office for courses included in the study plan as "without exam".

Proposal: Reintroduce the attendance log to be filled out by the lecturer and set a maximum absence threshold (further absences must be motivated and approved).

B2) Lack of an **exam calendar** and irregular temporal distribution of the exams (in some periods there is a much higher concentration of tests and exams than in others).

Proposal: Establish an exam calendar in advance, together with the class schedule, to have a more uniform distribution of lessons and exams. The two calendars must be released at the beginning of the academic year.

B3) The **methods of learning assessment** for some courses are not clear.

Proposal: Invite lecturers to fill in a syllabus for each of their courses, using a template provided by the PhD office, including the definition of the learning objectives and the methods for assessing learning.

B4) Lack of a **common grading system** across courses. Some lecturers use a 'basic' assessment resulting in Pass with merit / Pass / Fail, while others assign a grade expressed in letters from A to F, with possible variants (for example B-, B +, etc.).

Proposal: A common assessment metric is recommended. However, given the variety of course offerings, setting a single grading system seems too restrictive.

Therefore we propose to establish two systems:

1) A, B, C, D, E, F (without + and -)

2) pass with distinction, pass, fail.

Regarding system 1), we should note that this type of assessment is generally related to a percentage, which is not possible in most IMT courses since the number of students is small. This must, therefore, be indicated in the certificate of exams issued to the students.

B5) Currently, the IMT Regulations establish the **termination of student status** if a student does not pass the same exam twice. Over time this rule has been subject to different interpretations, with different degrees of discretion applied to different cases.

Proposal: We recommend discussing this issue further to reach an agreement within the entire faculty.

B6) The **grades for courses taught by external lecturers** are never communicated to and recorded by the PhD office.

Proposal: Process the payment of the lecturer only after the communication of the exam grades (and any retakes) to the PhD office, if included in the teaching plan, and set a specific deadline for the exam.

B7) Lack of a formal procedure for the recognition of doctoral-level exams taken at other

### institutions.

Proposal: Establish a procedure so that first-year students can request the recognition of any doctoral-level exams taken elsewhere and thus obtain an exemption from equivalent exams included in the IMT PhD program's teaching plan. We also recommend establishing a procedure so that students enrolled in years after the first



can request the recognition of additional exams taken elsewhere (for example, during periods abroad).



To ensure that the aforementioned critical issues are addressed as early as from the **2019-20 academic year**, the Board has shared them with the competent governing bodies, especially the Scientific Board. Specifically, question B1) was brought to the attention of the Scientific Board during the session of October 22, 2019. The Scientific Board has established that starting from the new doctoral cycle, lecturers must record the student attendance by filling in a designated log. A maximum absence threshold has not been introduced. Attendance is mandatory according to the PhD regulations and any absence must be communicated to the lecturer and excused.

Questions B2) and B3) were addressed by the Scientific Board in the sessions of October 9 and 16, 2019, when it was established that starting from the new doctoral cycle, lecturers will be invited to provide information (purpose and content of the course, teaching methods, methods of learning assessment, etc.) for each of their courses, according to a predefined template provided by the PhD office, by a set deadline so that new students will have all the information about the course offering, the class schedule, and the exam calendar at the beginning of the academic year. Also, the lesson calendar must comply with the guidelines approved by the Scientific Board (maximum duration of each lesson equal to 3 hours; the interval between two consecutive lessons not less than 24 hours and not more than 10 working days (except for IMT closing periods); maximum 10 hours of lessons in a week).

Question B4) was addressed by the Scientific Board in the session of October 16, 2019, when it was determined that starting from the new doctoral cycle, lecturers will have to use either grading system proposed above. The PhD office will also have to indicate the two available grading systems in the certifications issued and that system 1) does not correspond to a percentage metric.

Question B5) was addressed by the Scientific Board in the sessions of October 16 and 22, 2019. It was decided to delete the automatic expulsion of a student who cannot pass the same exam twice from the PhD Regulations. Specifically, the new Regulations allow a single retake for each exam and give the Scientific Board the authority to determine the expulsion of the student, in the event of a definitive failure to pass an exam.

Question B6) was brought to the attention of the Scientific Board during the session of October 22, 2019. The Scientific Board established that starting from the new doctoral cycle, external lecturers will receive compensation for their teaching activity only after communicating the exam results. The procedure to ensure that the final exam is completed within a specific time frame has not yet been established.

Question B7) was addressed by the Scientific Board in the session of October 22, 2019. It was decided to introduce a paragraph in the PhD Regulations that allows students to request recognition of doctoral-level exams taken at another institution and permits the subsequent exemption from equivalent exams provided by the IMT PhD program's teaching plan. The specific procedure has not yet been discussed and the recognition of additional exams taken at another institution during the doctoral cycle at IMT has not yet been brought to the attention of the governing bodies.

### FRAMEWORK C

## ANALYSIS OF AND PROPOSALS FOR STUDENTS SERVICES (TEACHING SUPPORT, RESIDENTIAL, AND NON-RESIDENTIAL SERVICES)

For each of these three general areas related to services, the Board has identified several critical issues,



sometimes followed by proposed solutions.

### C.1) TEACHING SUPPORT SERVICES

C.1.1) **Classrooms.** In terms of space, there are currently only two classrooms permanently equipped for teaching (that is, equipped with a permanent projector and large blackboard). If necessary, the lessons are held in other spaces of the campus, whose facilities are set up at the moment and which are not always adequate for teaching activities.

The electronic devices in the two main classrooms often turn out to be defective and the absence of IT staff on site delays the resolution of the problem.

C.1.2) **Study rooms.** The use of study rooms, and in particular workstations (desks), is not currently fully regulated. At some locations (the hallways in the San Francesco complex) students can use a desk permanently, leaving their equipment and belongings, while at others (the third floor of the library) this is not allowed - as per email communication on November 16, 2019. Currently (December 2019) there is a shortage of student workstations (also because of the coexistence on the campus of some students of the XXXII cycle, who are still at IMT as winners of FPF or PAI projects, and students of the cycles XXXIII, XXXIV, and XXXV currently in progress).

The temperature in the study rooms is extremely cold in the winter, and despite frequent requests, the air conditioning has never been adjusted accordingly. Likewise, in the summer it is not possible to set a suitable temperature.

We recommend the assignment of a workstation (in the San Francesco complex or the library) to each student upon arrival at the IMT.

C.1.3) **Servers and IT services**. The use of servers is not currently regulated by IMT; students need a professor's endorsement to access the service, which expires at the end of the doctoral program, with the risk of losing part of the work done. The simultaneous access by several students causes an overload and therefore a breakdown of the system.

There is an obvious need to make shared computers or a computer room that can be used if necessary available to students (such as for work-related Skype calls, to use special software, etc.).

Among the outcomes of the Good Practice project, in which IMT has been participating for the last three years, there are significant difficulties in navigating and using the website, together with limited effectiveness of the institutional communication on social networks. As to the IT support office more broadly, according to the same survey, the staff and the quality of assistance earn very high scores, while the ratings about infrastructure are low.

### C.2) RESIDENTIAL SERVICES

Embodied in the 'campus' model in the former St. Francesco's convent, the provision of board and lodging services characterizes IMT and is a very important resource for its PhD students. Since residential services play such a key role at IMT, it is our expectation that they have the highest possible quality standards.

The overall assessment by the student body is certainly positive; living together with their fellow PhD students has an excellent impact on both personal and research-related prospects.

That said, we outline below some elements of the residential services that could be improved further.

C.2.1) **Canteen.** The most critical feature of the canteen service concerns the quality of the food, not



with regard to the personal tastes of the users but rather the nutritional value of the food. In particular, most students

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complain that energy intake is not enough to perform daily activities. For this reason, several individuals have not taken advantage of the canteen service offered by IMT for long periods. Also, there are no alternatives for those who need special food regimes (gluten-free, lactose-free diet, etc ....). The origin and quality of the ingredients are unknown and many of them, mainly vegetables, are frozen (as indicated in the menu).

There is also a scarce variety in the culinary proposals: the meals offered do not take into account the high number of students of foreign origin with different eating habits (halal, kosher, vegetarian cuisine, etc ...).

The weekly menu, prepared by a nutritionist, is often not regarded, causing an imbalance in the food

groups.

Finally, the ability to take away food results in a substantial amount of plastic waste.

**Proposals:** Students would like to be involved in choosing the company that manages the canteen, to have the possibility to express their preference for a certain type of service over another.

Until the reopening of the tender to select the company responsible for the canteen service, it would be desirable that IMT shared the issues that have been raised by the student body, especially about the quality of the ingredients and the variety of the food offer, with the current company (increasing awareness towards the needs of international students).

To try to reduce the consumption (and waste) of plastic, students who want to take advantage of the takeaway service could be authorized to use their own food containers. Alternatively, the plastic containers could be replaced by food-grade paper containers, which are easier to dispose of. Concerning the environmental protection and the "plastic-free" orientation, the Board notes with satisfaction that starting from mid-November 2019 the IMT Administration has authorized the use of personal containers for the takeaway service, as well as installing two water dispensers and consequently eliminating bottled-water from the vending machines. These initiatives, also advocated by the student body, will significantly help reduce plastic consumption on campus as early as the current academic year.

C.2.2) **Lodging**. There is currently a high degree of discretion in managing student requests about lodging. Specifically, there is no indication about the possibility of changing rooms, changing roommates, having a single room, or the consequences of waiving the lodging benefit. The lack of guidelines means that individual requests are dealt with on a case-by-case basis, with no uniformity of service. Moreover, the communication of individual or group needs to the office in charge seems to be difficult according to multiple sources.

The WI-Fi signal in many rooms (especially on the fourth floor) is poor or absent. There seems to be a general difficulty in regulating the air conditioning system.

**Proposals:** Greater clarity about the regulations on the use of spaces and their application in a uniform and non-discretionary manner would be desirable.

C.2.3) **Common kitchen**. The size of the kitchen available to students is not adequate for the number of users, often being overcrowded or unusable.

**Proposals:** A reasonably large kitchen space or multiple kitchens would be desirable, perhaps even at the new campus location currently under construction.

C.2.4) **Medical assistance**. European students cannot consult a general practitioner unless they give up the family doctor in their place of residence; as a result, the only possible alternative is to go to the emergency room or the out-of-hours doctor on call.

**Proposals**: The psychological counseling service made available by IMT is very useful; for this reason, it could be better promoted, especially about how to access the service.

C.2.5) **Outdoor spaces**. Students do not use outdoor spaces on campus due to the lack of suitable equipment (tables, benches, barbecues ...). Having these facilities would help make the IMT campus in line with the



international standards.



#### C.3) NON-RESIDENTIAL SERVICES

C3.1) **International mobility**. The main issue with international mobility concerns the disparity between the outgoing and the incoming mobility, especially regarding the student body. While almost all IMT students undertake a period of study abroad during their PhD course of study, few PhD students from foreign institutions (mostly thanks to a lecturer's contacts) request to spend a research period of at least two months as visiting students at IMT. Instead, a significant number of students from a foreign or third institution attend IMT as visiting students only for the duration of one or more individual courses. However, these students' status is not well defined, to the point that there is no standard procedure for administering the teaching evaluation questionnaires to them. There is also a need for greater clarity about the services available to and the rights of the students who come to IMT from a foreign institution under a joint doctoral agreement. Currently, they are considered visiting students instead of regularly enrolled doctoral students as they should.

Regarding the outgoing international mobility, there is a disparity of resources between students who undertake a research period in an EU country and those interested in non-EU countries. The latter, from a financial point of view, only receive an increase in their PhD scholarship, as required by national legislation, but they do not have other resources to draw upon. However, many destinations outside the EU have a very high cost of living, so the amount of the PhD scholarship together with its increase are not sufficient to cover all expenses.

A further issue about the outgoing mobility concerns students carrying out research periods at other Italian institutions. In this case, the student does not have any increase in the PhD scholarship nor are there specific calls for additional financial resources.

From the analysis of the responses to the Good Practice questionnaire, in 2019, compared to the previous year, there was a clear improvement in the quality of the service offered for missions and periods abroad, while the delays in the reimbursement of expenses remain critical.

**Proposals**: Because of its international character and ambitions, IMT should undertake targeted actions to expand the incoming mobility of students from foreign institutions. For this purpose, a part of the website specifically dedicated to foreign students highlighting the benefits for visiting students, as well as the educational offer and IMT's research activities they may take advantage of, would be especially useful (a reference to course descriptions; list of seminars; existing laboratories and workshops etc.)

To expand the range of international mobility of its students, IMT could consider establishing an ad-hoc fund for extra-EU outgoing mobility, to be assigned upon specific student requests and following the same criteria used for the allocation of Erasmus funds.

C.3.2) **Placement**. The Placement Service is more inadequate than other services provided by IMT, in terms of organization as well as the quality of the results. Despite the good IMT students' postdoctoral employment rate, we believe this is more a result of the students' excellent preparation and personal initiative rather than of an effective mediation between students and the 'job market' by IMT. In particular, there is a lack of information about the actions undertaken by IMT in this field; the implemented actions are not always known by the entire student community and the faculty.

The difficulties of the Placement Service are diverse and can be summarized in the following points:

1) Who is responsible for the service? The first problem is administrative and concerns the responsibility for the service. Currently, IMT does not have an office solely responsible for the placement; there is an administrative staff acting as the reference person, who is also managing all the activities relating to international mobility.

The Alumni association also has among its purposes to support the placement service, by promoting a

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dialogue between students and alumni and facilitating the exchange of information among researchers with the same background. However, the current activity of the Alumni association in this regard is still insufficient. After an initial meeting which took place in June 2019, no action was taken on the planned activities; the initiatives undertaken by the association or next planned events are not known.

2) What steps to take? A second issue is qualitative and specifically concerns the type of actions the Placement Service should be able to offer. A first difficulty with the provision of services concerns the broad range of professional profiles to refer to. The multidisciplinary nature of IMT differentiates the placement it offers from the typical placement activities of a university faculty, which could more easily focus on a specific sector.

The diverse placement activities conducted so far (job fair, E-cubed, meetings organized by the Alumni association) have not been able to include all IMT's research areas, almost exclusively providing for economic-scientific-engineering subjects.

3) Where to find information? Lastly, there is an organizational issue, namely the lack of information regarding the placement activities that IMT offers and statistics on the IMT alumni's job placement. In particular, there are no public statistics/lists/tables about the alumni's distinct occupations.

**Proposals**. The most immediate proposals for improvement concern the administrative and organizational issues, that is, a clear allocation of responsibilities for the placement activities, and the provision of information on job offers and the alumni's occupations on the IMT website. With this in mind, it would be desirable for the IMT website to indicate: the contacts of the office or administrative staff responsible for the service; the activities in which the School participates in this regard; job offers that become available; any meeting or seminar organized between students and Alumni, etc. This information, currently not available, would represent a significant element of IMT's attractiveness to both possible partners and prospective students if made public.

The meetings of the Alumni association should take place with higher frequency and constant regularity. These meetings should be regularly scheduled to make them IMT's 'institutional' events.

Some activities that IMT organizes jointly with the Sant'Anna School of Advanced Studies or the Scuola Normale Superiore of Pisa (such as the E-cubed project or the Job Fair) could also take place in Lucca, to facilitate the IMT students' participation.

A service that would be very useful for the student body is the availability of a human resource who could review resumes/cover letters for a job application. Such a service was offered by the E-cubed project during the 2018/2019 a.y. and was highly valued by some IMT students; nevertheless, a one-off career counseling meeting should be an addition to, not a replacement of a regular service of the same type.

### CONCLUSION

The Board satisfactorily appreciates the prompt recognition of the diverse issues reported during its first year of activity from all the IMT governing bodies responsible for quality assurance. The types of problems identified can be summarized in two main groups: problems due to a defective organization of IMT's teaching and administrative systems, and therefore solvable in the short term; and those due to IMT's structural deficiencies, requiring a longer resolution period and related to the size and structure of the current spaces. As to the first item, we wish to report the adequacy of the measures immediately implemented to resolve the identified problems, with immediate benefit for the entire academic community. With this in mind, the new PhD Regulations issued on November 6, 2019, deserve a special mention, as well as the guidelines for the presentation of the courses shared with the lecturers, both addressing several of the Board's requests, after extensive and frequent discussions within the Scientific Board.



Concerning the second item, the Board has called the IMT Administration's attention to a critical issue of which the



School was already well aware and is appropriately planning a solution. Despite the relatively short time in which it has operated and the incipient character of the recent developments on the subject in institutions similar to IMT so far (the other five Italian special status schools have so far produced only two annual reports), the Board considers the work initiated well-founded, significantly beneficial in the short time elapsed, and promising equally positive future developments.

To ensure **maximum transparency** and provide students with **immediate feedback** on the suggestions received, the Board hopes that this report will be publicly returned to the IMT academic community during a gathering, held in English, to which all constituents of the School are invited, as an opportunity for an exchange of views and further reflection on the diverse topics. The Board also hopes that the minutes of the Board meetings already held and the communications sent to the QE Committee can be published on the IMT website (on the public portal or the intranet section) together with this report so that all the records can be consulted by the IMT academic community and draw everyone's attention. The Board will promptly publish the calendar of the meetings scheduled for the 2019-20 academic year on the dedicated section of the IMT institutional website so that students know in advance when their requests will be examined by the Board.

Lucca, December 31, 2019

The Joint Teachers-Students Board