Informe de Progreso del Comité Institucional de Educación General
20 August 2024

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Executive Summary

The review of general education at UPRM found that the university is facing multiple challenges in regards to the General Education component of the undergraduate curricula. First and most fundamental, there are no institutional general education minimum requirements that apply to all UPRM students. The proposed general education component submitted by the Institutional General Education Committee (CIEG) presents a coherent universal general education component that emphasizes the skills and an exposure to diverse areas that is needed in today's globalized world. According to best practices in the field of general education, students must, in addition to mastering the elements of their concentration: (1) be able to communicate effectively with people inside and outside of their major concentration at the university level; (2) have developed their critical thinking skills in order to effectively analyze arguments, ideas or concepts; (3) understand how societies and sciences function and are part of the modern world and (4) know and recognize the elements of their history and culture (Hook, 1975; AAC&U, 2018) . The proposed UPRM general education component responds to these needs.

To complete the proposed revision, the committee completed the following tasks in order to create the universal general education component:

1. Analyze the current status of general education at UPRM as detailed in the Undergraduate Academic Catalogues for 2007/08-2024/25;
2. Examine how the current and proposed UPRM general education requirements align with the Middle States Commission on Higher Education General Education (MSCHE) minimums, (Standard III, Criteria 5), 2005 and 2015 UPRM MSCHE Self-Study Reports, the 2005 MSCHE findings; the current UPR System Strategic Plan (2023-2028); and the UPRM Philosophy of Education.
3. Analyze the information detailed by employers, CEOs and National Academies on the desired traits, abilities, perceived knowledge of recently hired graduates.
4. Investigate the current trends and models of general education in comparable institutions.
5. Analyze the incoming UPRM students' level of academic achievement as detailed by the META-PR Proficiency Exams; and the College Board Admissions (PAA) and Advanced Level (PNA) Exam scores.
6. Meet with the UPRM departments and faculties for information, feedback and comments.

Current official UPRM General Education Requirements: The Middle States Commission and the UPRM MSCHE Self-studies, have found that UPRM needs clearly define the general education requirements and courses and that these be included in the academic catalogue in a clear and concise manner (UPRM 2005 Self-Study; 2007 General Education Assessment Plan; 2015 UPRM MSCHE Self-Study). However, the Committee's analysis revealed that 1) there are no institutional and few faculty general education minimum requirements; 2) there is no General Education Assessment plan, which has been repeatedly specified as necessary in both MSCHE findings (UPRM MSCHE Self-Study, 2005; UPRM General Education Assessment Plan, 2007) and the UPRM MSCHE Self-Studies (2005, 2015); 3) the Assessment Plan proposed by the General Education Assessment

Ad-Hoc Committee was not implemented; 34 in addition to the UPRM official general education definition (SA Cert. 21-51), there are 16 additional and widely varying definitions of "general education" throughout the academic catalogue (see Appendix B); 5) there are no institutional general education minimums, which suggests a regressive trend that permits the individual programs to determine their own general education requirements; and 6)

Alignment with accrediting agencies and the UPR System Strategic Plan: The Committee is concerned that current trends in general education at UPRM and the lack of the development or implementation of a General Education Assessment Plan, could raise questions of adherence to the MSCHE Standard III requirements. The Middle States Commission on Higher Education (MSCHE) includes in Standard III, Criteria 5 lists the areas that are considered necessary for inclusion in undergraduate programs. These areas include: 1) cultural and global awareness, 2) cultural sensitivity, 3) the ability to make well-reasoned judgments outside as well as within their academic field; 4) oral and written communication skills, 5) scientific and quantitative reasoning, 6) critical analysis and reasoning, 7) technological competency, and information literacy, and 8) the study of values, ethics, and diverse perspectives.

Findings: The analysis of the UPRM undergraduate curricula found that, while all programs include communication and mathematical and scientific areas in their programs, there are some weaknesses in regard to cultural and global awareness and sensitivity. Because the domain of governance for general education is at the program level, and because there is no institutional supervision of the General education component, it is not possible to guarantee that students are exposed to the areas specified in Criteria III of the MSCHE Standards. In regard to the UPR Systemic Strategic Plan, given that this strategic plan was only recently approved, the individual programs are currently in the process of alignment with the new requirements. Nevertheless, the proposed General Education component plan attends to all strategic curricular requirements both according to MSCHE and the UPR System Strategic Plan, including the Promotion of the Values, Ethics and Esthetics of Art and Culture specified in Meta 4 of the UPR Strategic Plan.

Reports and Surveys of CEOs, Hiring Managers and National Agencies: The information gleaned from these reports emphasizes that the CEOs and hiring managers believe that students need to develop a combination of professional and technical skills, and be able to o work with others with diverse viewpoints or from diverse backgrounds. They emphasized the need for good communication and critical thinking skills, the development of cultural awareness and sensitivity and for expanding the viewpoint horizons of the students. According to the AAC&U 2023 Employer Survey, a majority of students are prepared for entry-level positions, but not for further advancement in the workforce. In the AAC&U 2015, 2018, 2021, and 2023 Employer Surveys the emphasis that the abilities considered important by employers are not developed within a single course or specialization. Students, in their studies, need breadth as well as depth in their studies for long-term success.

Analysis of the META-PR and College Board scores for entering students: In designing the general education component, the Committee analyzed the levels of knowledge and skills of the entering first-year students as presented in the META-PR and College Board Admissions and Advanced Placement Exams. In addition, these scores were also utilized to help establish the areas and

minimum requirements for each area. The Committee considered the proficiency scores of students in the 11th grade in high school (META-PR) (future UPRM students), as well as the College Board Entrance (PAA) and Advanced level exam (PNA) scores of the entering first-year students for the years 2014/15 - 2024/25.

Findings:

A. META-PR Exam: 1) 36-39% of 11th grade public school students are considered proficient in Science, Spanish and English, while 9% of 11th grade public school students are considered proficient in Mathematics.
B. College Board Exams (Admissions and Advanced Level):
    a. Spanish: 70-90% of students are below the entering university level in Spanish Communication.
    b. English: 45-65% are below the entering university level in English as a second language.
    c. Mathematics: 65-90% of entering students are below the entering university level in Mathematics.

These documents and results, along with a long process of community meetings and feedback, were examined and analyzed in order to create the proposed General Education Component. The proposed component is designed to provide an ample, *college-level* exposure to the areas of communication, quantitative and logical reasoning, scientific thought, and culture and global awareness, as well as provide the foundation for developing professional skills that employers look for in recent graduates, such as critical and creative analysis, complex problem solving, and the ability to work with others from diverse backgrounds.

1. Introduction: The Central Importance of General Education

The General Education curriculum is an important part of the undergraduate students' preparation. The GE component establishes a solid foundation with a wide range of knowledge, skills and experiences necessary for a broad university education and for subsequent success in their personal and professional lives. For this reason, General Education is a requirement in almost all universities and colleges in the United States and Puerto Rico, because it provides students with the tools and knowledge necessary to solve the problems they would face in society (Penn State, 2019). An ample, college-level exposure to the areas of communication (oral and written), quantitative and logical reasoning (including mathematics), natural sciences and culture awareness provide the foundation for developing professional skills, such as critical and creative analysis and complex problem solving, that employers look for in recent graduates.

The General Education component would require students to have experience in a variety of subjects. Within the natural sciences, one can learn how the natural world works, which can open a window into the universe. Within the social sciences, one learns and understands how people and companies use resources, possibly leading to an understanding of how economies might develop. Within the humanities, one learns how to critically analyze texts and works of art, learn a different language, or study a different culture, thereby gaining a more complete vision of the world. As Valerie Strauss states, it is only through engaging in the thinking processes practiced in these areas of general education that one can be exposed to a variety of ways of thinking, analyzing, and questioning. “The experiences gained from studying in different fields may be qualitatively different, but they are all vital pieces of the Tao of the liberal arts, and are all equally important” (Strauss, 2017).

Schneider (2015), in his study "Falling Short, College Learning and Career Success", says that 96% of the respondents to his questionnaire indicated that students, regardless of their field of study, should have experiences in college that prepare them to solve problems within and outside your specialty and to interact with people whose points of view are different from their own. The study indicates that a large majority of the respondents believe that, given the global nature the modern world, students should acquire knowledge in the liberal arts and sciences, as well as develop intercultural skills to understand other societies outside the United States and Puerto Rico. *(*Finley, 2018; Finley, 2021, Finley, 2023; Schneider, 2015).

> *Employers overwhelmingly endorse broad learning as the best preparation for long-term career success. They believe that broad learning should be an expected part of college for all students, regardless of their chosen major or field of study. (Schneider, 2015, p5).*

A balanced exposure to the different areas in the General Education component (such as the Humanities, Sciences, Mathematics, Languages), develops the students’ skills that allow them to: 1) understand and resolve challenging situations, 2) relate effectively to others, thus positively impacting on their personal and professional lives and 3) learn to approach issues from diverse

angles in order to resolve problems. Indeed, in "The Integration of the Humanities and Arts with Sciences, Engineering, and Medicine in Higher Education: Branches from the Same Tree", the National Academies of Science, Engineering and Medicine argues that

> *"new designs for general education should consider incorporating interdisciplinary, multidisciplinary, and transdisciplinary integration, emphasizing applied and engaged learning and connections between general education and specialized learning throughout the undergraduate years and across the arts, humanities, and STEM disciplines" (p. 5).*

The National Academies further elaborates on the distinct roles of each of these domains in contributing to a complex whole with cognitive and epistemological diversity. In fact, in a decade-long longitudinal study on attributes deemed important by both MIT graduates and prospective employers, breadth and depth were both emphasized (Please see Section 1.1). Such wide exposure is a counterweight to the now constant digitalization of life in the today's world. As Strauss points out:

> *...the more we create a constant low-level hum of digital connectivity, the more we get tangled up in the vastness and blind spots of big data, the more essential it is to bring human judgment into the junctions of our digital lives. (Strauss, 2017).*

The General Education component must be relevant to students and their areas of study, but that does not necessarily imply that it must be integrated or delivered within the concentration. While such an approach is conceivable, it would be extremely difficult to design in that it would entail a full revision of all programs and courses, as well as the design and implementation of a complete institutional evaluation plan, in order to ensure that the general education skills, knowledge, and experiences are covered. However, the creation of lists of disconnected courses divided by disciplines is not an adequate method for organizing General Education, because it lacks the necessary coherence needed for a university education or to make the relevance of the topics more evident to the student body.

According to the report "How College Contributes to Workforce Success" (2021, 2023), employers value elements of a liberal education that includes a strong General Education component. Additionally, employers in the survey emphasized the importance of General Education experiences and skills, along with concentration, as they establish a path for the development of skills, mindsets and aptitudes essential for career success.

The Association of American Colleges and Universities (AAC&U) highlights the importance of General Education in the academic training of students in the study "Recent Trends in General Education Design, Learning Outcomes, and Teaching Approaches" (AAC&U, 2015). In addition, it is demonstrated that the structure of the component is important in that it helps link General Education to the students' major concentrations. According to the report, in the five years prior to the study, 55% of affiliated institutions indicated that General Education had become more important, while 43% indicated that there had been no change in its importance and only 2% said which was a lower priority (AAC&U, 2015).

All this was considered in the development of the proposal for the UPRM General Education component. It was considered important that the General Education component be a coherent, common, and shared experience for all UPRM students. It also needed to balance and integrate important institutional priorities as expressed in the Mission of the University, the Definition of General Education, the Philosophy of General Education, the Strategic Plan of the UPR System and of UPRM, as well as other academic institutions, such as the National Academies of Science, Engineering and Medicine and the Association of American Colleges and Universities. Although it was considered necessary that the component be based upon existing courses, it was designed to allow for innovative, creative and interdisciplinary experiences in order to prepare the UPRM students with the information and skills needed in the twenty-first century.

1.1. Surveys of American Employers

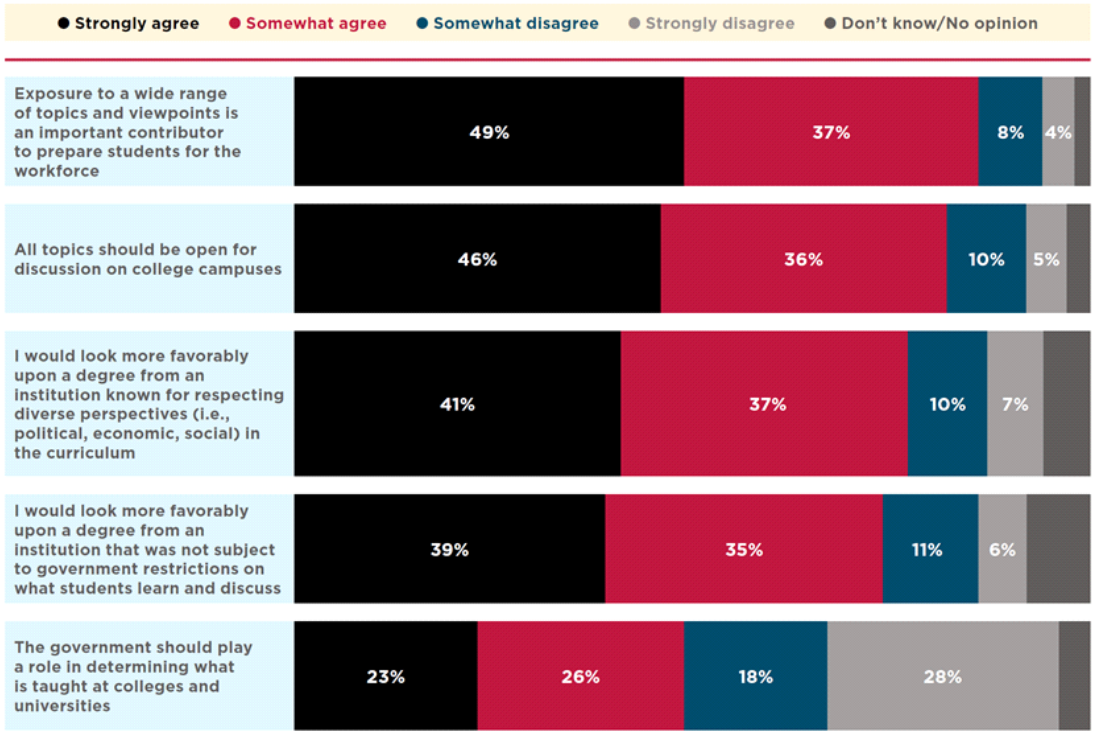
The Association of American Colleges and Universities (AAC&U) has conducted studies and surveys analyzing why the students in United States universities benefit and need a General Education Component in their curricula. They have noted that the American high school education plan is vastly different from that of other countries and most high school graduates have lagunas in their areas of study or exposure. The General Education concept can be traced back to the 1920s (A brief history of general education. Terry O'Brian) with the idea of ensuring that the students of the United States obtain the best education possible (this is also aligned with the concept that all persons have the right to a good education). These studies present a defense of GE as a component in the curriculum, and also the need for developing skills or knowledge in all areas (Science, Math, Humanities, Communication, Social Sciences).

Of the AAC&U Employer surveys from 2015, 2018, 2021, and 2023, certain trends can be identified. (Let me know if you want the methodology). The common trends that can be seen are:

1. A liberal education provides the knowledge and skills employers view as important for career success. (2021, p1) and at least half of employers view the skills of a liberal education as "very important" for college graduates (2021).

2. According to the 2023 AAC&U Survey, two in five employers strongly agree that most recent graduates have the skills and knowledge needed to succeed in entry-level positions, but fewer of them believe that the most recent graduates have the necessary skills and knowledge to advance or be promoted. This has been tracked since 2015. Until 2021 the lack of confidence was steadily decreasing. In 2021 the number rose slightly, but decreased again in the 2023 survey. Employers view their recent hires out of college as mostly prepared to succeed in entry-level positions but not necessarily to advance beyond the entry level. Both breadth and depth of learning are needed for long-term career success. This was a common point in both the 2018 and 2021 surveys.

Figure 1. Skills Cited as Important Skills for Recent Graduates (Finely, 2023).



3. Demonstrated proficiency in a 'variety of skills and knowledge areas that cut across majors' is a high priority item.

4. Since 2015, there has been an increased emphasis on the importance placed on recent graduates' ability to analyze and solve problems with people from different backgrounds and cultures (see Figure 1).

5. The 2021 survey concludes with the following: "Leverage general education to reinforce why breadth and depth of learning matter. The skills that matter to employers are not developed within a single course or even within a single major..."(AAC&U, 2021). This sentiment is also reflected in the 2023 Survey.

Similarly, the National Academies upon analyzing data from a decade-long study of MIT graduates, they found:

> Very few employers indicate that acquiring the knowledge and skills needed primarily for a specific field or position is the best path to long-term success. Employers report that, when hiring, they place the greatest value on demonstrated proficiency in skills and knowledge that cut across all majors. The skills that they rate as most important include the ability to communicate clearly, both in writing and orally, teamwork,

ethical decision making, critical thinking, and the ability to apply knowledge in complex, multidimensional, and multidisciplinary settings. According to employers, this combination of cross-cutting skills is as or more important for an individual's success at a company than just the major he or she pursued while in college. (p. 44) (See Figure 2).

Figure 2. Professional Skills Ranked by MIT Mechanical Engineering Graduates (National Academies, 2020).

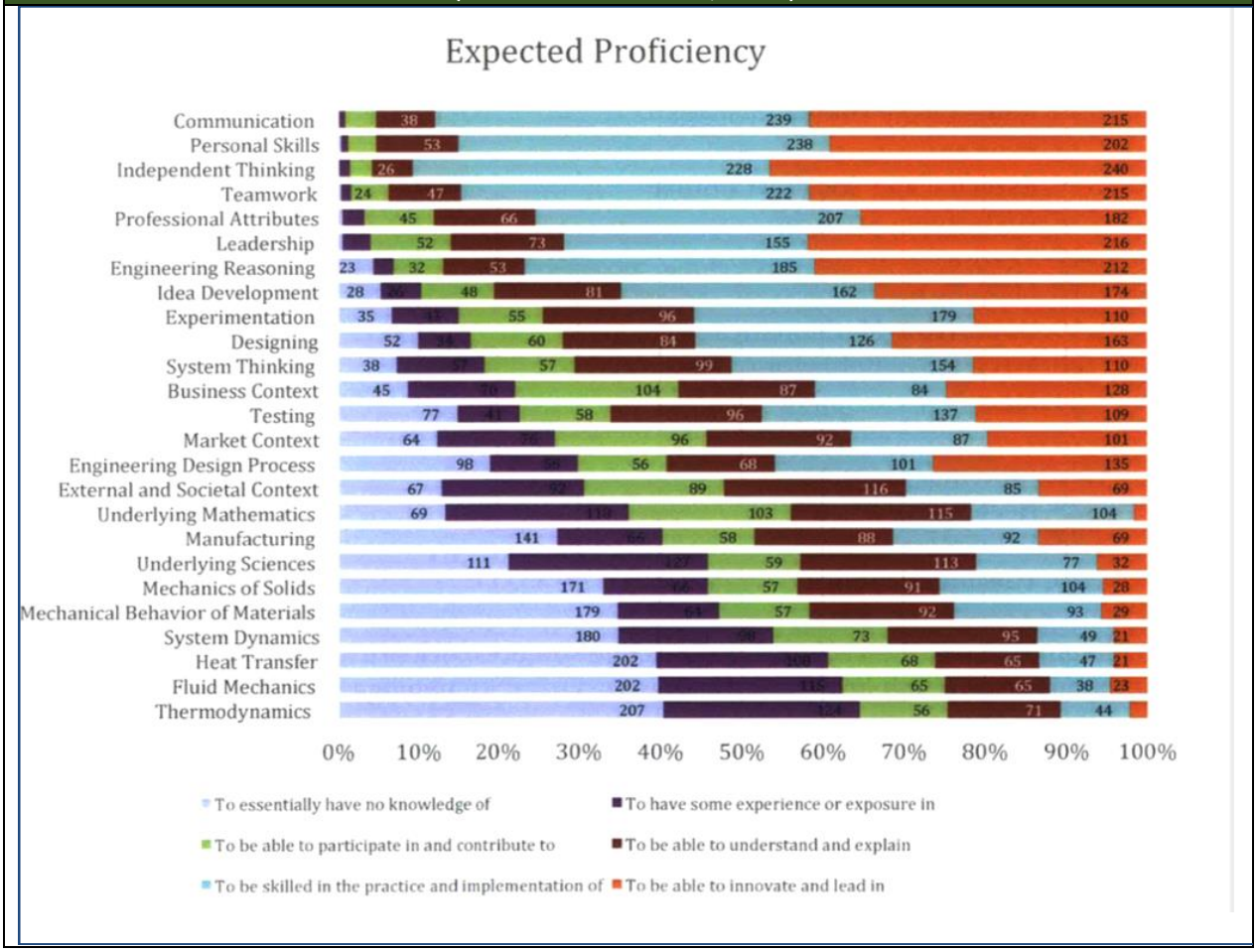


Figure 2 presents the professional skills necessary for success in the work place according to MIT graduates in Mechanical Engineering. Of note is the ranking by the students of the professional skills, such as communication, personal skills, independent thinking and personal attributes among the list of attributes.

2. Institutional General Education Profile: Definitions and Minimums

To understand the current profile of the General Education component at UPRM, the committee reviewed multiple documents, including the 2005 UPRM MSCHE Self Study Report; the 2007 Annex

to the UPRM Institutional Plan for the Assessment of Student Learning SA Cert. 03-43, the 2015 UPRM MSCHE Self Study Report and the UPRM Undergraduate Academic Catalogues from academic years 2008/09 to 2023/2024. The essential findings of this study are that the general education offering at UPRM are ambiguous, with long-standing definitional and programmatic inconsistencies and, with the exception of Kinesiology (SA Cert 69-05), no universal curricular requirements. Further, the institutional governance that had emerged in the last fifteen years has begun to recede. The proposed new structure addresses many findings of this examination to bring coherence and ensure breadth of exposure (See Part 2 of this Report).

2.1 Definitional Inconsistencies

Based on work of the Committee, the following institutional definition of General Education was approved in 2021 (SA Cert. 21-51E) by the UPRM Academic Senate:

> General Education at the University of Puerto Rico Mayagüez Campus has as the main objective to encourage a broad educational experience that promotes the values and attitudes that should prevail in a democratic society that treasures and respects diversity. To this end, all UPRM students will be exposed to a diversity of disciplines and experiences throughout their university career, to help them choose and define their academic goals. The curricular and extracurricular experiences, which will comprise UPRM's General Education will meet the following criteria:
>
> - Provide diverse, encompassing, and interdisciplinary experiences that foster the identification and investigation of important issues and communicate effectively and clearly, in written and oral form, possible solutions within and outside their discipline.
> - Encourage active, collaborative, and continuous learning and exploration to stimulate curiosity and the desire to continue learning.
> - Develop critical and ethical thinking that will enable them to be better citizens who recognize and respect social diversity.
> - Develop awareness of the Puerto Rican culture and sensitivity to current issues in the modern world.

Per the current MSCHE Standard III, this definition is "consistent with [institutional] mission"[1] and "includes the study of values, ethics, and diverse perspectives."

However, the "inconsistency in semantics or in the way various sectors of UPRM referred to general

[1] To provide excellent service to Puerto Rico and to the world: Forming educated, cultured, capable, critical thinking citizens professionally prepared in the fields of agricultural sciences, engineering, arts, sciences, and business administration so they may contribute to the educational, cultural, social, technological and economic development; performing creative work, research and service to meet society's needs and to make available the results of these activities. We provide our students with the skills and sensitivity needed to effectively resolve problems and to exemplify the values and attitudes that should prevail in a democratic society that treasures and respects diversity."

education courses", cited in the 2005 MSCHE Self Study Report (p. 84), persists today. Indeed, as noted in SA Cert. 21-51E, a "plethora" of definitions (in addition to the official General Education definition, there are 16 different definitions of general education; please see Appendix B for this list) developed by different academic units (faculties, departments, and programs) that permeate the Catalogue, leading to potential confusion, and indicating a lack of coherence of how general education is articulated. In particular, at least two common themes emerge from this divergence. First, there is a tendency in which courses that are not part of a concentration, including advanced courses with numerous prerequisites, are reported as 'general education', resulting in some programs having 40-50% of their curricula being classified as general education courses (see SA 21 51E).

Second, several programs include free electives as part of their general education offering. However, Free Electives are system-wide requirements, and not part of a General Education program. Indeed, there is no guarantee that students' choices of free electives respond to the now-adopted definition of General Education[2].

2.2 Non-uniform Requirements

Related to the multiplicity of definitions, the reality at UPRM is that no uniform nor institutional general education requirements exist, except for the institutional requirement of 2 credits for Kinesiology (SA Cert. 69-05). As a result, and as noted in SA Cert. 21-51E, there is a wide variation in the counting of the number of requirements across the university (partly due to inconsistency with counting free electives), ranging from 44-81 credits.

Nevertheless, according to the 2005 MSCHE Self Study (p. 84), a strength was that "UPRM requires all undergraduate students to take a minimum number of requirements in general education courses." Normalization of these minimum requirements emerged in the 2008/09 academic year, the first time the University stipulated "Minimum General Education Requirements" (2008/09 Catalogue, p. 26). Further, the 2015 MSCHE Self Study provided that "each Academic Program establishes its own specific combination of courses according to the 'Minimum General Education Requirements,' and their specific advanced courses (oriented elective courses, core courses, and free electives[3])", implying that the requirements are institutional in nature. These requirements appeared in the Catalogue until they were removed in the 2021/22 Undergraduate Academic Catalogue. The Committee is concerned that this lack of acknowledgment of the institutional character of general education requirements potentially conflicts with the MSCHE Standard III requirements.

[2]A pending issue that is part of the Committee's Work Plan is to study the patterns student selection of free electives. The Committee has discovered that no institutional office (neither the Registrar nor OPIMI) is capable to generate such a report.

[3]Note the designation of free electives as other than general education.

The following two tables present a comparison of the GE requirements before and after 2021. For further reference, Appendix C contains tables that detail the various program requirements that are currently specified in the Catalogue.

Table 1 presents the pre-2021 institutional general education requirements. This was a balanced and coherent component which exposed the UPRM students to diverse disciplines and areas of study.

Table 2 presents a summary of the new requirements for each faculty. In comparison with the pre-2021 requirements, the general education component, with the exception of the 2 credits in Kinesiology, has been mostly left to the discretion of the programs.

Table 1: Institutional General Education Requirements from 2008-2020

Subject Area	Minimum Required Credits	Variations by Faculty
Spanish	6	ARCI: 12 Credits
English	12	None
Humanities	6	Engineering: 15 credits (Sociohumanistic electives)
Social Sciences	6	
Mathematics	6	–Arts & Sciences: some variations based on department –Engineering: 5 credits (MATE 3005) –Business Administration: 3 credits (Office Administration program)
Sciences Biol/Phys)	6	–Agricultural Sciences: 8 credits (QUIM 3131-3132) –Arts & Sciences: 12 credits (courses determined by department) –Business Administration: 6 credits (Natural Science electives) –Engineering: 8 credits (QUIM 3131-3132)

Table 2: Summary of Current Faculty GE Minimums after 2021

	Total	ESPA	INGL	MATE	SCIEN	HUMA	CISO	ETHICS	SOHU[3]
ADEM[1]	DBP	DBP	DBP	DBP	DBP	DBP	DBP	DBP	DBP
ARCI	54	12	12	6	12	6	6	N/A	N/A
CIAG[1]	18	6	12	DBP	DBP	DBP	DBP	DBP	N/A
INGE[1,3]	39	DBP	DBP	30[2]		N/A	N/A	3	6[3]

[1]DBP: "As defined by the program's curriculum". For the Academic Catalogues from 2008/09 - 2021/22 and for the Colleges of Agricultural Sciences, Business Administration, and Engineering, the general education minimums, have been mostly left to the discretion of the programs.

[2]INGE: 30 semester credit hours (or equivalent) of a combination of college-level mathematics and basic sciences with experimental experience appropriate to the program.

[3]SOHU : This is a broad category that is not limited to Soci-humanistic areas, but includes courses from all of the Liberal Arts, as well as areas outside of the Liberal Arts. The students select from a list of courses in the following areas: English Language and Literature, Spanish Language and Literature, Social Sciences, Sociology, Art, Music, Philosophy, Behavioral Sciences, Psychology, Teacher Education, Economy, Engineering, Business Administration, Humanities, Foreign Languages. This is a 'catch-all' list that replaces the Socio-humanistic orientation.

Figures 3 below presents the summaries of the program requirements for each of the four faculties. All programs include 2 additional credits in Kinesiology as part of those requirements. A majority of the pre-2021 general education areas have been converted to program requirements (or, as stated in the catalogue, "as defined by the program curriculum") and are limited in scope. As noted before, these tables demonstrate the lack of coherence or uniformity in the general education components at UPRM.

Figure 3. General Education Requirements, by Program, per the UPRM Catalog.

INGE Faculty requirements. UPRM Undergraduate Academic Catalogue 2023/24 p 240.

Subject Area	Minimum Required Credits for the College of Engineering Programs
Spanish	as defined by the program's curriculum
English	as defined by the program's curriculum
Humanities and Social Sciences	6 credits in courses related to social sciences, behavioral sciences, education, economics or humanities (as defined by the program's curriculum) and at least 3 credits in ethics related courses from an approved list of courses.
Mathematics and Basic Sciences	-Engineering: 30 semester credit hours (or equivalent) of a combination of college-level mathematics and basic sciences with experimental experience appropriate to the program. -Surveying and Topography: 24 credit hours of a combination of college-level mathematics and sciences (some with laboratory and/or experimental experience) appropriate to the discipline.
Kinesiology	

ARCI Faculty requirements. UPRM Undergraduate Academic Catalogue 2023/24 p 117.

Subject Area	**Credits**	
Spanish	12	6 in Basic Spanish and 6 in courses at second level.
English	12	6 in basic course and 6 in advance courses.
Social Sciences	6	Students will choose six credits in social sciences courses not included in their specialized area.
Humanities	6	Introductory courses in Humanities- HUMA 3111-3112.
Mathematics	6	MATE 3171- 3172 (Pre-Calculus I –II), MATE 3086 (Mathematical Reasoning), COMP 3057 (Computer Fundamentals)
Sciences	12	Determined by the departments.

Figure 3. General Education Requirements, by Program, per the UPRM Catalog.

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ADEM Faculty requirements. UPRM Undergraduate Academic Catalogue 2023/24 p 218

Minimum General Education Requirements for the College of Business Administration

Subject Area	Minimum Required Credits for the College of Engineering Programs
Spanish	as defined by the program's curriculum
English	as defined by the program's curriculum
Humanities and Social Sciences	as defined by the program's curriculum
Mathematics and Natural Sciences	as defined by the program's curriculum
Kinesiology	2

CIAG Faculty requirements. UPRM Undergraduate Academic Catalogue 2023/24 p 82

Subject Area	Minimum Required Credits for the College of Agricultural Sciences Programs
Spanish	6
English	12 credits according to the sequences established by the English Department
Humanities	As defined by the program's curriculum
Social Sciences	As defined by the program's curriculum
Mathematics and Basic Sciences	As defined by the program's curriculum
Kinesiology	2

2.3 Institutional Governance and Oversight

Without a uniformity of definitions or requirements, the mediation of general education is ambiguously in the hands of the Deanship of Academic Affairs or the various Faculties. The first institutional statement regarding governance of general education appears to occur in 2008/09, in parallel with the emergence of the minimum requirements:

> "The Office of the Dean of Academic Affairs oversees all matters related to curricula and student learning including the coordination of General Education at the institutional level" (p. 26).

This language persisted until 2016-17, when it was changed a moderately stronger statement:

> "The Office of the Dean of Academic Affairs is responsible for the dissemination of the General Education philosophy adopted by the Academic Senate. The Office also oversees General Education offerings in all our academic programs" (p. 32).

This language persisted until 2021-22, when it was removed from the catalogue, in parallel with the removal of the statement of minimum general education requirements. As of today, no statement remains regarding the role of the Deanship of Academic Affairs in coordinating or maintaining the general education requirements. This suggests a regression in institutional oversight and requirements. As stated previously, the Committee is concerned that this posture will raise questions of adherence to the MSCHE Standard III requirements. We note that since

2021/22, the Catalogue does include the aforementioned Definition of General Education (SA Cert. 21-51E).

In summary, The Middle States Commission and the UPRM Self-studies, have found that UPRM needs to define the general education requirements and courses and that these should be included in the catalogue in a clear and concise manner (UPRM 2005 Self-Study; 2007 Monitoring Report; 2007 General Education Assessment Plan; 2015 UPRM MSCHE Self-Study). While this was found in the UPRM MSCHE Self-Study reports, the Committee's analysis revealed a lack of clarity. It found that 1) the UPRM faculties, departments, and programs all interpret "general education" differently (see Appendix B) there are no institutional general education requirements; 3) there is a plethora of definitions included in the academic catalogue; 4) there is a regression in institutional oversight and requirements, with a trend to permit the individual programs to determine their own general education requirements; and 5) there is no general education assessment plan (as specified as necessary by MSCHE).

2.4 General Education Assessment and the Office of Continuous Improvement and Assessment (OMCA)

The Office of Continuous Improvement and Assessment (OMCA) was formally established in 2005, in order to oversee and help with the development and implementation of the UPRM assessment plan that was developed in 2005 (MSCHE 2007 Monitoring Report to MSCHE). This office was deactivated in 2009 due to budgetary cuts without clearly assigning the responsibilities for assessment to any functional UPRM unit (2015 UPRM MSCHE Self-Study, p. 27). It was later reactivated in 2014 to reestablish the assessment processes, including one for general education. In 2017 the office of OMCA was incorporated into the office of OIIP (now known as OPIMI). However, with this move, the assessment of the general education component was not continued.

One of the challenges that the institution faces is centered around assessing the UPRM general education component. Although the Institution has in place an assessment plan and format for the individual programs and minors, there is no assessment plan for general education. Given the changes and program revisions implemented beginning in 2021 (please see Sections 2, 2.1, 2.2, 2.3), and the relegating of many general education requirements to the control of the programs, there is no component that can be assessed or evaluated.

3. Student Profiles: Preparation and First-year Performance in Fundamental Courses

In establishing the component's areas and the minimum requirements for each, the Committee studied the preparation of the incoming students. In particular, the committee considered the proficiency scores of students in the 11th grade in high school (META-PR), as well as the College Board Entrance and Advanced level exam scores. As a general summary, two issues are clear:

1. There is a general decline in proficiency in student performance since 2017.
2. The severity of the student decline appears to be more severe than the similar decline observed in the US.

3.1 Proficiency Test "Medición y Evaluación para la Transformación Educativa (META-PR)"

The META-PR exam is a standardized diagnostic exam that measures students' abilities in the areas of Spanish (the native language), English, Sciences, and Mathematics. Given the importance of general education in the first two years of university studies, it is necessary to evaluate the abilities of those students who will be coming to the university within the next two to three years. The reports indicate the percentage of students considered as 'proficient' in the area
According to the Puerto Rico Department of Education this diagnostic exam:

> "evaluates the academic achievement of students through standardized tests that serve as a measurement instrument. These tests allow us to identify the proficiency levels of the students; offer direction to the teaching and learning process and contribute to decision-making regarding the training and professional development of teachers. They also offer the opportunity to evaluate the integration of projects and innovations in the classroom that foster academic improvement; implement effective and relevant pedagogical decisions and recognize the achievement of each student. (PR Dept Ed, 2024)

As can be seen in Figure 4, there is a downward trend in the scores, especially after 2019. The scale for the META-PR is Pre-basic: less than 64; Basic: 65-79; Proficient: 80-94; Advanced: 95-100.

Figure 4. Summary of META performance for 11th Grade in Puerto Rico, 2019-2023.	
	In Spanish, the proficiency level for the students in the 11th grade for the period 2019-2023 has dropped from 43% in 2019 to 39% in 2023. There is a slight improvement from 2022 to 2023 with the average score rising from 37 to 39%. The ability levels in Spanish are important to consider because that is the native language and all skills, be they in a second language (English in this case), Mathematics, or Sciences are filtered through the native language. If a student does not have adequate language skills in the native language, success in the other areas is much more difficult because of the difficulties in comprehending or analyzing the material.

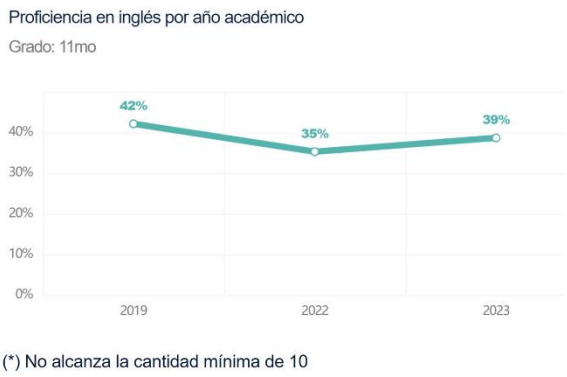
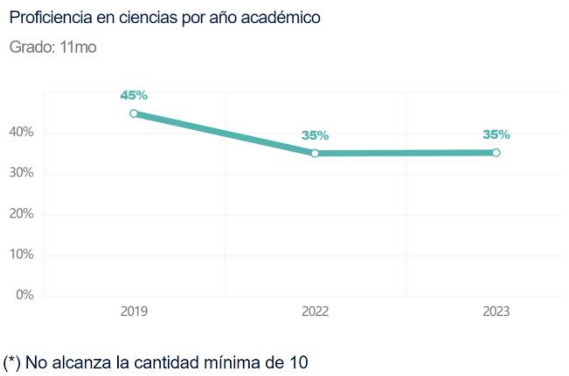
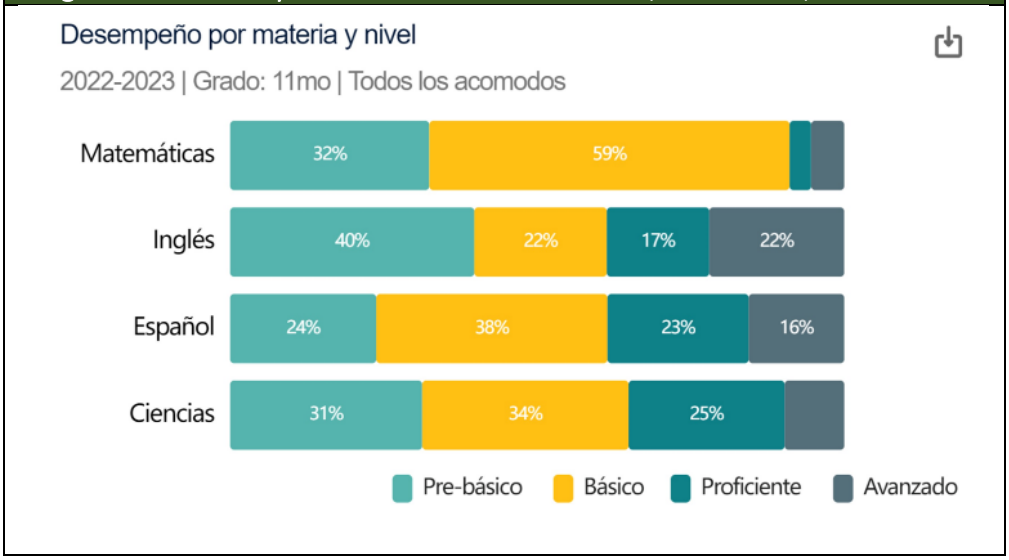
Figure 4. Summary of META performance for 11th Grade in Puerto Rico, 2019-2023.	
	For English, the second language, the scores and trends are similar to those for Spanish. The lowest point was in 2022 with an average proficiency score of 36%. However, as in the case of Spanish, this rose to 39% in 2023.
	The scores in the Sciences are similar to those in Spanish and English. According to the results, in 2019 45% of the students tested were considered 'proficient' in the sciences. However, this dropped to 35% in 2022 and has not risen since.
	The area of mathematics is much more problematic. According to the information from the Puerto Rico Department of Education, in 2019 only 11% of students tested were considered proficient in mathematics. This level dropped to 6% in 2022 and rose to 9% in 2023.

Figure 5 provides a summary of performance on the META for 11th grade students during the 2022-23 school year. The levels of students with at least Proficiency for Math, English, Spanish, and Science are 9%, 39%, 39%, and 35%, which are consistent with the graphs in Figure 3, except for possible rounding errors.

Figure 5. Summary of META Results from 2023, 11th Grade, Puerto Rico



Because the composition of the tests for Math and Science are somewhat different than the corresponding tests in the US, and because the nature of English and Spanish is fundamentally different in Puerto Rico vs. the US, complete direct comparisons with US students are not possible. However, the facilitators of META-PR report the following table to compare US and PR students in Math for the 4th and 8th grades. As can be seen in Figure 6, the performance of the students in Puerto Rico is significantly weaker than their counterparts in the US, and this is reasonably extrapolated to other years and other fields.

Figure 6. Comparison of Performance in Mathematics between US and PR students for 4th and 8th Grades, 2017-2022.

The proficiency scores are important to consider for designing the section that deals with language and mathematical skills. Given these scores, it was determined that all students must take at least one course at the second-year level in Spanish and English and only permit those who score more than 4 or 5 on the Advanced Level exam to have the courses 'approved' on their transcript with a 'P'. This is clearly demonstrated in the Figure above in which more than 60% are considered not proficient in the areas of English, Spanish or Sciences. In the case of Mathematics, approximately 91% are considered not proficient in the area according to the score of the META-PR.

3.2 College Board Admissions and Advanced Placement Exams

The College Board Admissions Exam (PAA) and the Advanced Level Placement Exams (PNA) were considered for the purpose of determining the areas and number of credits that students would need to take in each area. The placement of the students in their respective levels will be determined by the appropriate corresponding department.

The Committee examined the results of two distinct (disjoint) sets of students to best understand placement. The first group is composed of students who did not earn 4 or 5 on the PNA. The second group is composed of those students who did score 4 or 5 on the PNA. This was done to understand the trends for both those at the advanced level and those at a more basic level and thereby design the component that best fits both populations. For reference, the following list summarizes credit approval for 4 or 5 on the PNA:

- English: With 4 or 5, earn 'P' for 6 cr of Basic English
- Spanish: With 4 or 5, earn 'P' for 6 cr of Basic Spanish
- Math I: With 5, earn 'P' for Mathematical Reasoning
- Math II: With 4 or 5, earn 'P' for Precalculus I and II (MATE 3171 and 3172); With 3 and with 689 on the PAA, earn 'P' for Precalculus I (MATE 3171)

Analysis College Board scores for entering students: A well designed general education component ensures the development of skills in communication, in both English and Spanish, quantitative and logical reasoning, cultural awareness and sensitivity, and the sciences, the committee analyzed the levels of knowledge and skills of the entering first-year students. In the CIEG proposed plan, the committee also used these scores to help establish the areas and minimum requirements for each area. The committee considered the proficiency scores of students in the 11th grade in high school (META-PR) (future UPRM students), as well as the College Board Entrance (PAA) and Advanced level exam (PNA) scores of the entering first-year students for the years 2014/15 - 2024/25.

Findings: According to the College Board analysis of the scores of the PAA and the PNA, there exists a positive correlation between the scores of the PAA and the PNA, especially for those students who score 4 or 6 on the PNA. Those students who receive a high score on the PAA tend to also receive a high score on the PNA (González González, 2023). This study, based upon the scores of

all students taking the PAA and the PNA from 2017 to 2022, established the following correlations (González González, 2023, p. 14):

Figure 7. PAA: Descriptive Statistics based upon PNA Score

Calificaciones de la prueba de PNA	Español		Inglés		Matemáticas General Universitaria		Precálculo	
	Promedio	D. E.	Promedio	D. E.	Promedio	D. E.	Promedio	D. E.
1	432.60	66.00	455.52	71.82	421.95	62.67	504.08	76.41
2	498.65	63.78	561.47	62.72	492.97	64.99	569.66	78.49
3	562.36	56.85	633.25	59.63	576.84	63.90	622.70	75.42
4	615.41	50.91	682.73	61.77	642.07	59.37	672.78	71.15
5	649.66	45.35	723.11	59.63	695.24	66.91	732.22	59.07

Puntación del PNA	Interpretación
5	Altamente calificado
4	Bien calificado
3	Calificado
2	Posiblemente calificado
1	Sin recomendación

As can be seen in Figures 8a and 8b below, the average scores of entering UPRM students, across all faculties and tests, has been steadily declining since 2017. Average scores for each cohort have declined on the order of 25-50 points over the study period over the study period 2-14-2023. Although this report does not propose any specific recommendations for placement levels, a decrement of 50 points on the PAA is likely to represent a decrease in one placement level. Similarly, the number of students taking and earning a 4 or 5 on the PNA plummeted drastically in 2020, coinciding with the pandemic. Although it can be argued that the pandemic caused this decline, the fact that neither the scores nor the number of students taking the exams scores have not fully rebounded is indicative that the general student body requires a robust formation in the fundamental areas of General Education. In the future, if the lingering effects of the pandemic recede, then more students would enter at higher placement levels, within the proposed structure.

Figure 8a. Average PAA Score, By Faculty, Excluding Students with 4 or 5 on the PNA

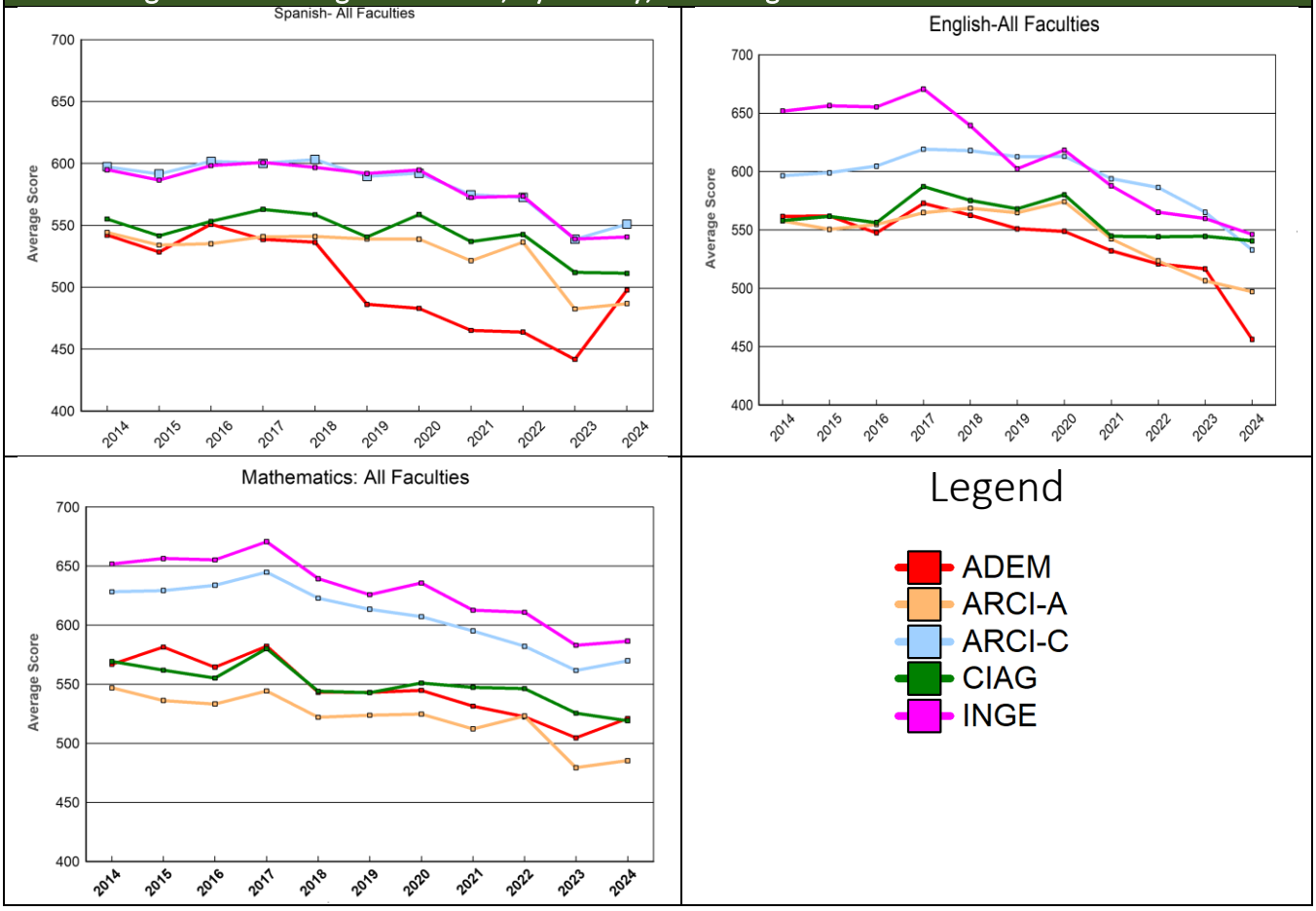


Figure 8b. Average PAA by Subject and Year, All Students, Excluding 4 or 5 on PNA

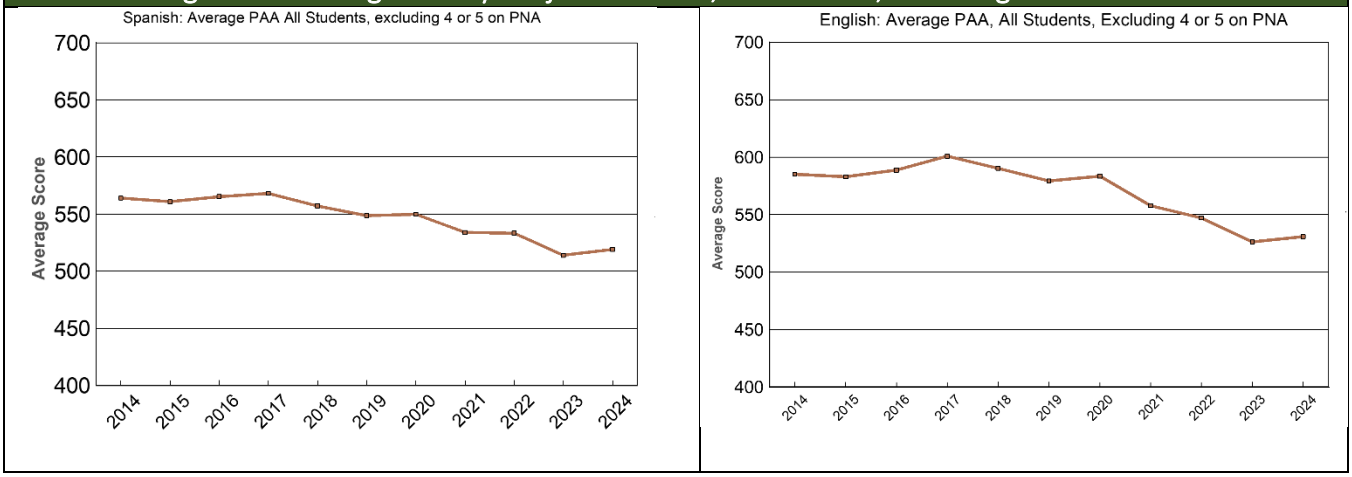


Figure 8b. Average PAA by Subject and Year, All Students, Excluding 4 or 5 on PNA

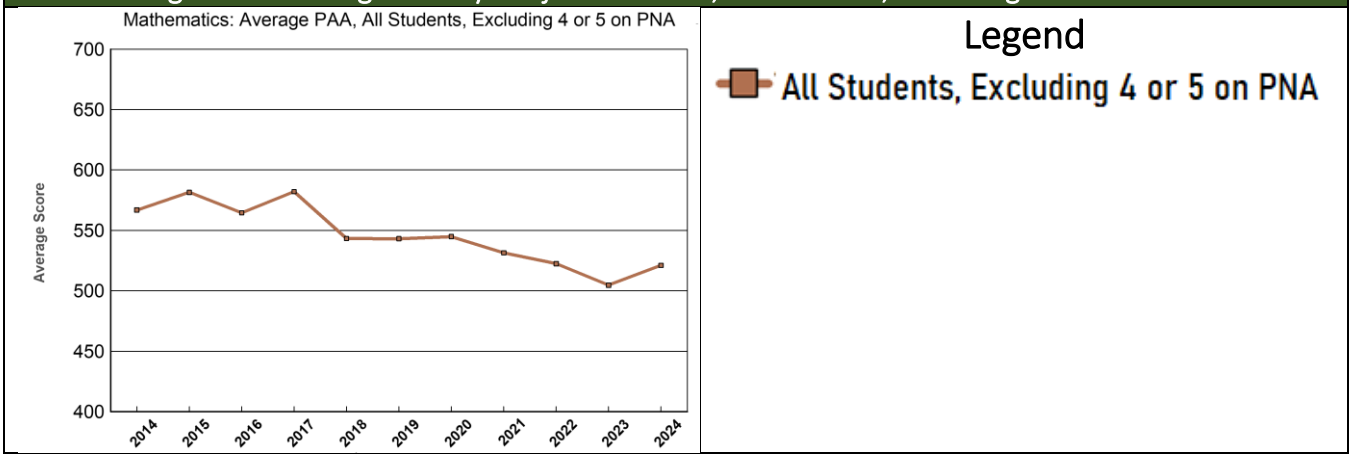
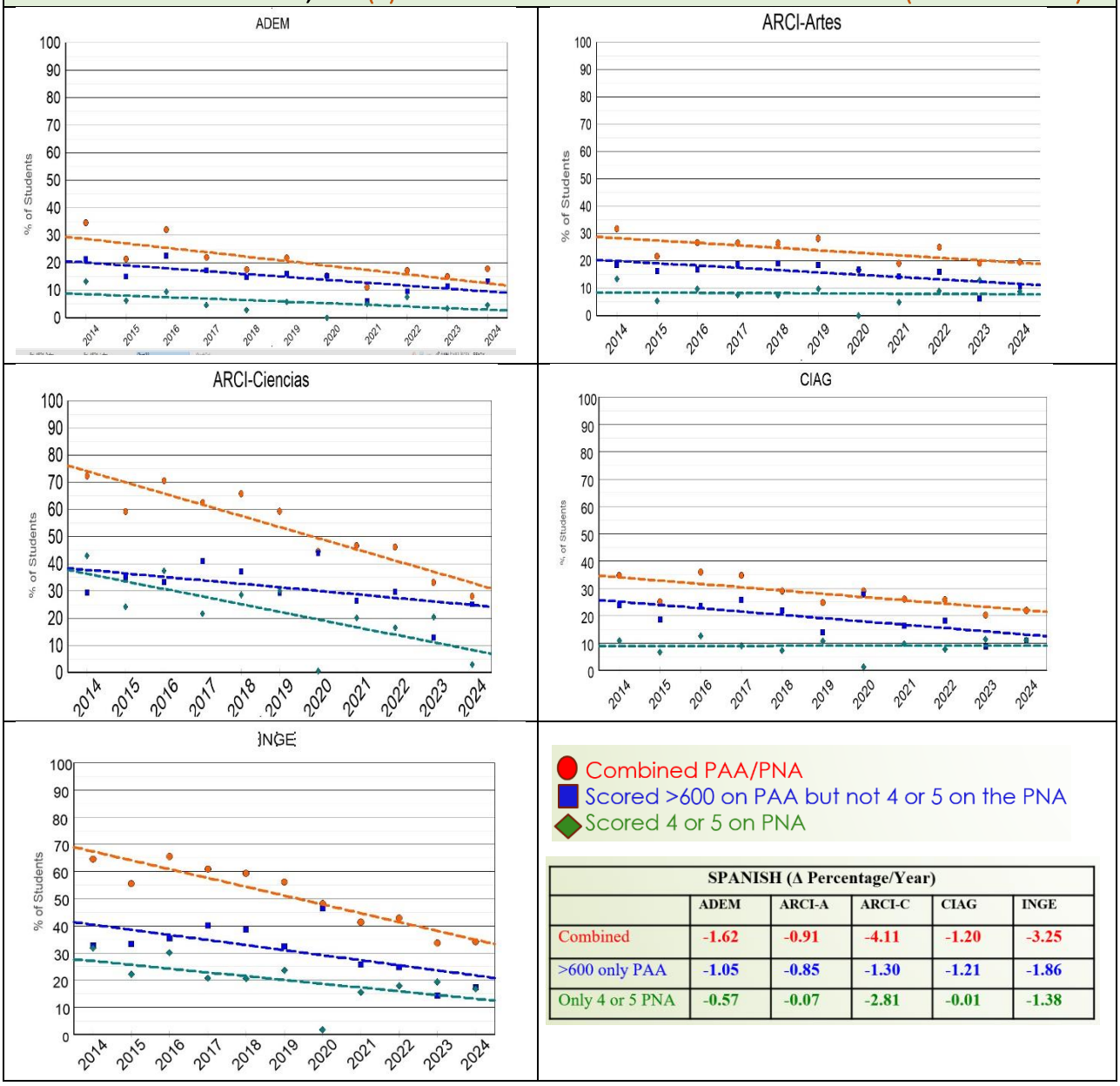


Figure 8b shows that the average PAA score (excluding students who obtained 4 or 5 on the PNA) is below 550 in all three areas: Spanish, English, and Mathematics. According to the Descriptive Scale determined by the College Board, PAA scores of: 562.36 in Spanish, 633.25, 576.84 in MATE I and 622.7 in MATE I are considered on the border between possibly proficient and proficient. The average PAA scores of entering students since 2020 have been below 550 in all areas (Figure 8b Spanish-8b Mathematics).

In order to understand and measure student preparation for placement purposes, the Committee examined the 'threshold' performance, that is, the number of students earning a minimum score. This is analogous to the practice of the US College Board to assess 'benchmarks'. Figures 9-12, provide threshold data for the tests in Spanish, English, Math I, and Math II, respectively. Each figure provides a separate graph for students per each faculty, followed by a summary table providing the linear decrements measured in percentage points per year. In all areas and all faculties, the scores have been steadily declining. In each chart, the blue trendline represents the percentage of students scoring a minimum of 600 on the PAA, but not achieving 4 or 5 on the PNA (either the score was less than 4, or the student did not take the test). The green trendline represents the percentage of students scoring 4 or 5 on the PNA (who will then receive university credit for the basic courses). The orange trendline represents the percentage of all students scoring more than 600 on the PAA *or* 4 or 5 on the PNA, and is the sum of the blue and green trendlines.

3.2.1. Spanish PAA and PNA Scores

Figure 9. Spanish: Students who: (1) Scored > 600 on the PAA but not 4 or 5 on the PNA, (2) Scored 4 or 5 on the PNA, and (3) Scored >600 on the PAA or 4 or 5 on the PNA (sum of 1 and 2).

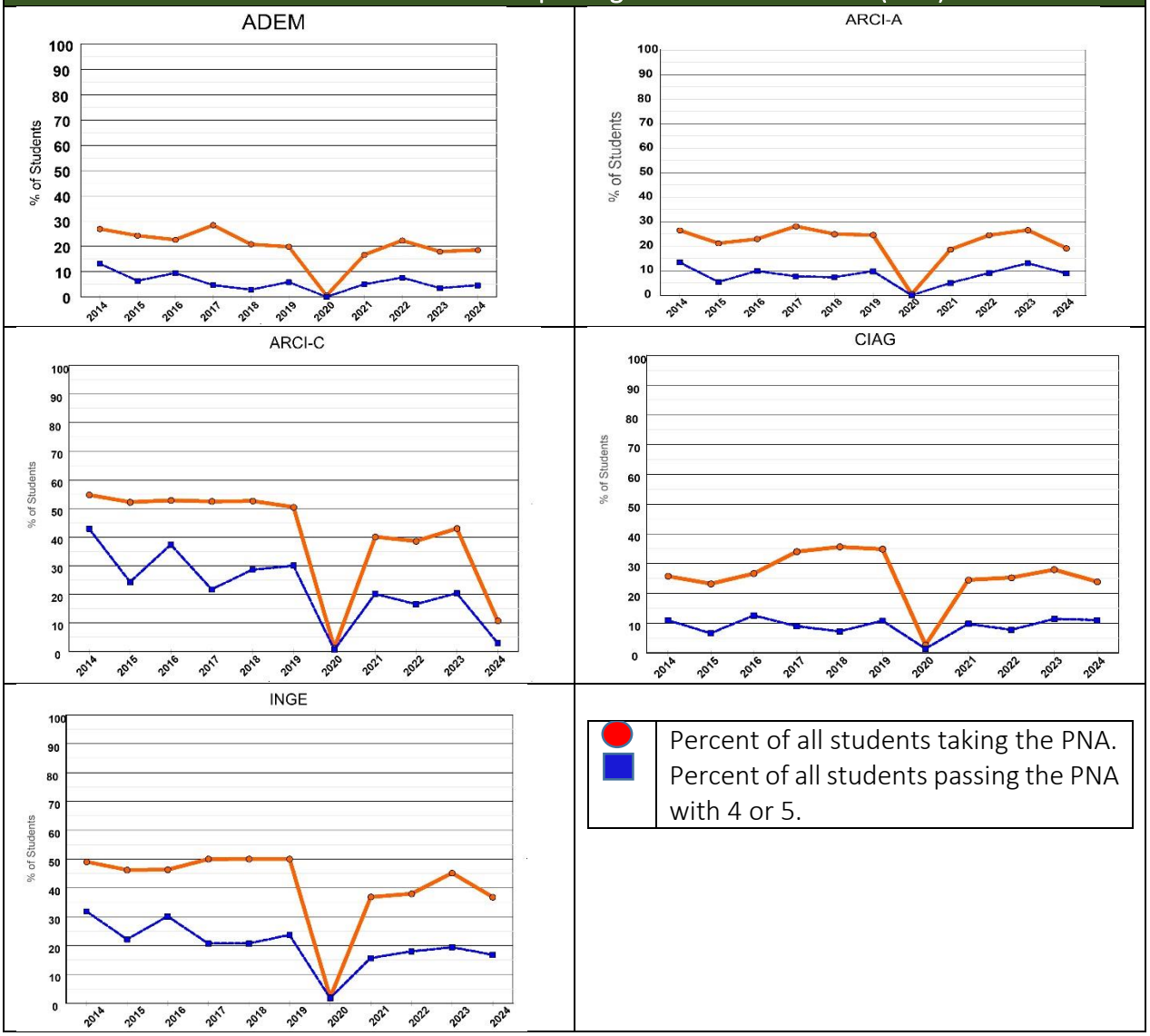


SPANISH (A Percentage/Year)					
	ADEM	ARCI-A	ARCI-C	CIAG	INGE
Combined	-1.62	-0.91	-4.11	-1.20	-3.25
>600 only PAA	-1.05	-0.85	-1.30	-1.21	-1.86
Only 4 or 5 PNA	-0.57	-0.07	-2.81	-0.01	-1.38

In Spanish and across all faculties, the number of students scoring 600 or more, or 4 or 5 on the PNA, shows a decline, and in some cases a severe decline. By 2024, in all faculties, less than 40% of entering students are proficient in the area (red trendline). In fact, looking back at Figure 8a-Spanish, it is clear that the average Spanish score for the entering UPRM student is below that which is considered as 'proficient' or 'qualified' by the College Board (please see Figure 7).

In all cases, less than 35% of admitted students scored more than 600 on the PAA *or* a 4 or 5 on the PNA (orange trendline) and can be considered proficient in the area.

Figure 9a. Spanish: Percent of admitted students taking the PNA (red) compared to Percent of admitted students passing the PNA with a 4 or 5 (blue).

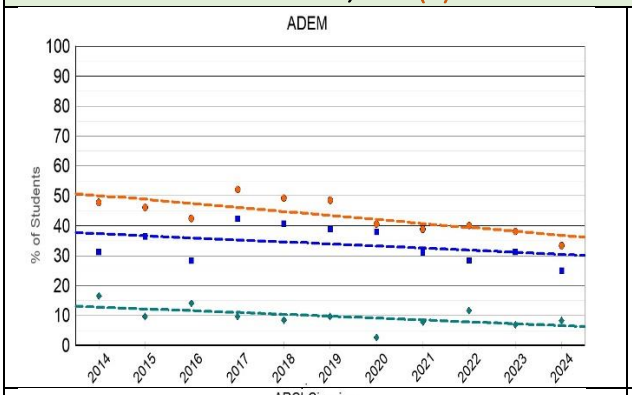


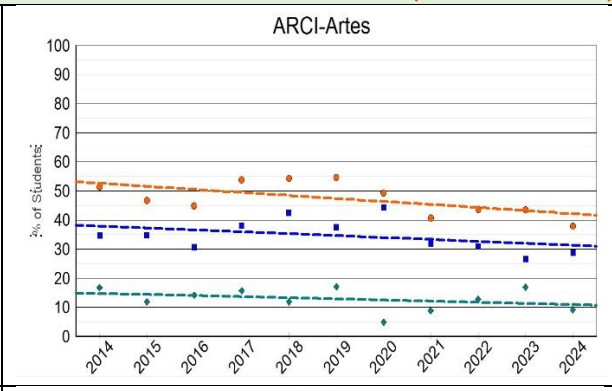
The graphs in Figure 10 show the percentages by year of those students taking the PNA as compared to those who passed the exam with a score of 4 or 5. The abrupt decline in 2020 was due to the changing of the exam to 'optional' for those interested students in response to the COVID Pandemic. However, while a moderate rebound in the number of students taking the exam can be seen, the number of students passing the exam with 4 or 5 (and receiving college credit) has not recovered to the pre-pandemic levels. In ARCI-C, there is a dramatic decline from 2023/24 to 2024/25. On studying the PNA trendlines in Figure 9 and the information in Figure 10, the following can be established: The scores for the period 2014/15 to 2024/25 on the advanced placement exam

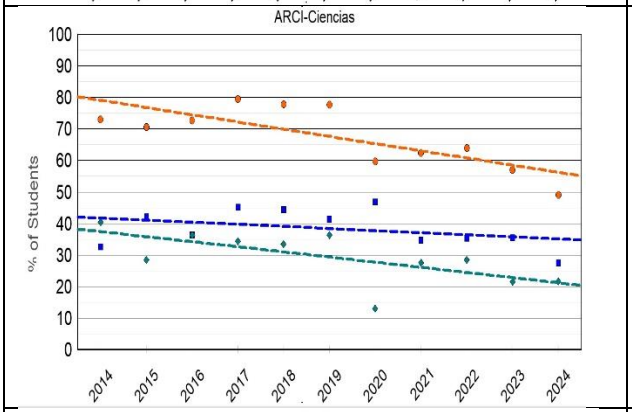
(PNA or green trendline), in ADEM less than 5%; in ARCI-A, ARCI-C, and CIAG, less than 10%; and in INGE and ARCI-C, less than 15% of the admitted students scored a 4 or 5 on the PNA (Please see Figure 9, above). Only in CIAG has the number of students passing the PNA rebounded to the 2014/15-2017/18 levels.

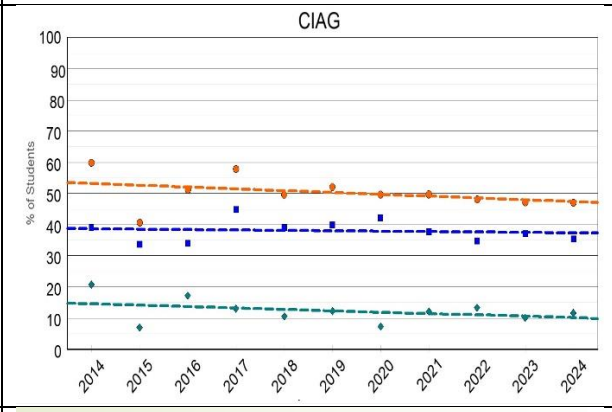
3.2.2 English PAA and PNA Scores

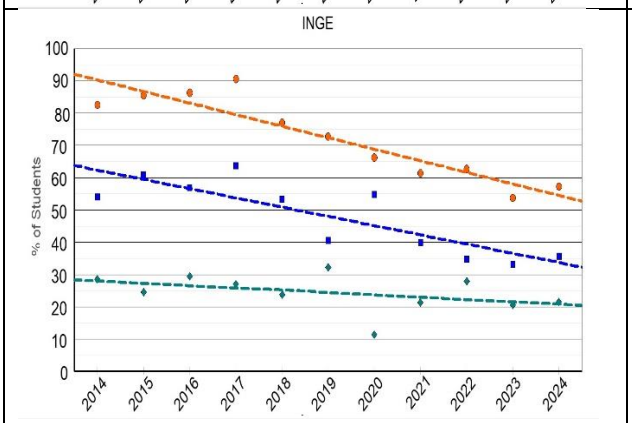
Figure 10. English: Students who: (1) Scored > 600 on the PAA but not 4 or 5 on the PNA, (2) Scored 4 or 5 on the PNA, and (3) Scored >600 on the PAA or 4 or 5 on the PNA (sum of 1 and 2).

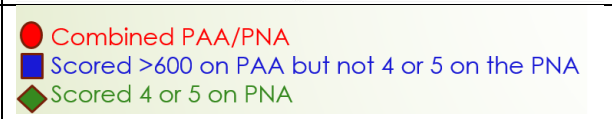










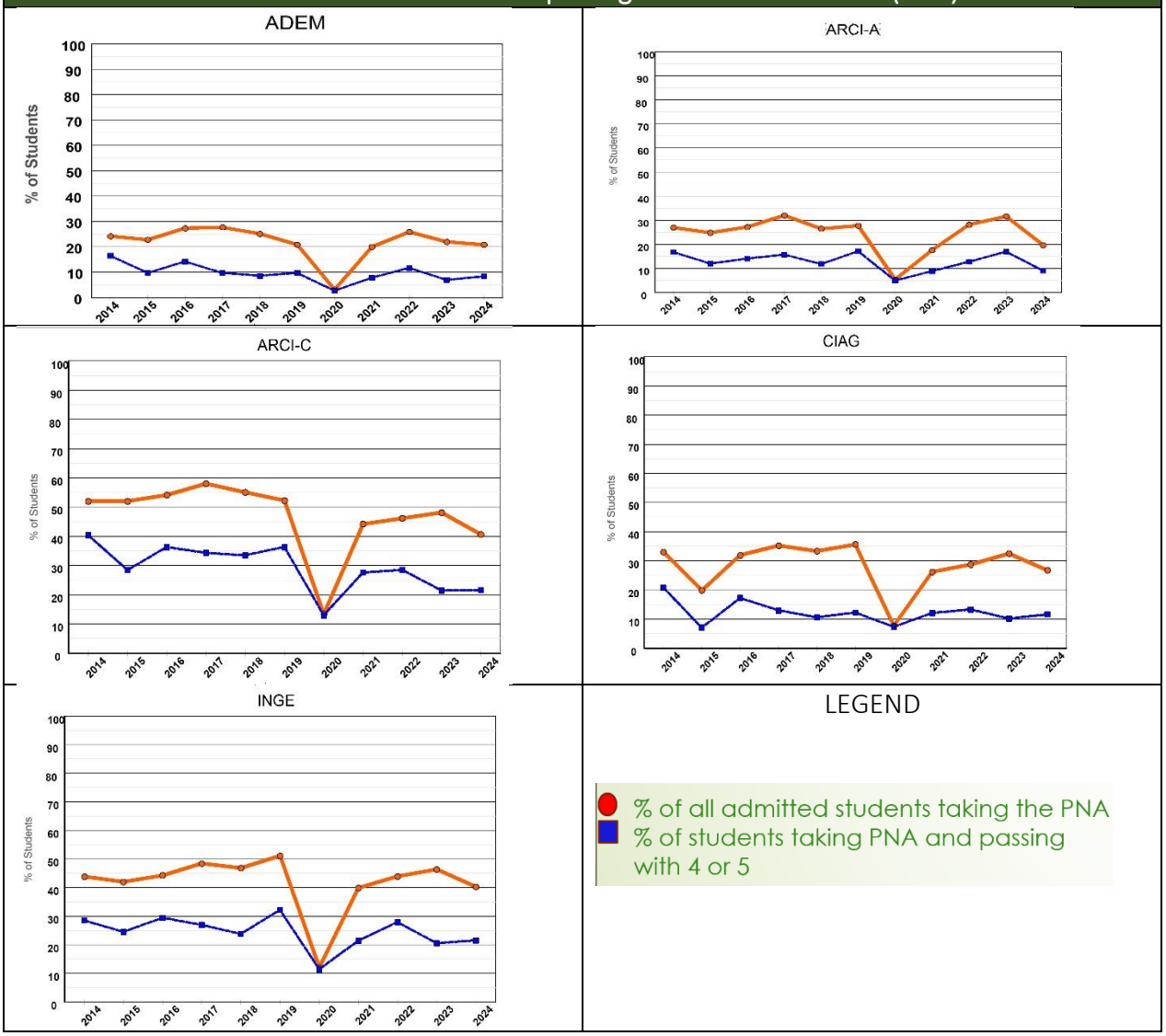


ENGLISH (Δ Percentage/Year)					
	ADEM	ARCI-A	ARCI-C	CIAG	INGE
Combined	-1.33	-1.05	-2.30	-0.58	-3.58
>600 only PAA	-0.70	-0.66	-0.67	-0.13	-2.86
Only 4 or 5 PNA	-0.63	-0.39	-1.63	-0.46	-0.72

Across all faculties, the number of students scoring 600 or more, or 4 or 5 on the PNA, declined. ADEM, CIAG, and ARCI-A demonstrated a more moderate decline, while ARCI-C and INGE demonstrated a more severe decline. By 2023, in all faculties, less than 40% or less of the students scored 600 or more on the PAA (blue trendline).

In addition, less than 40% of admitted ADEM students, less 50% of ARCI-A and CIAG students, and less than 60% of ARCI-C and INGE students scored more than 600 on the PAA *or* a 4 or 5 on the PNA (orange trendline).

Figure 10a. English: Percent of admitted students taking the PNA (red) compared to Percent of admitted students passing the PNA with a 4 or 5 (blue).



The graphs in Figure 10a show the percentages by year of those students taking the PNA as compared to those who passed the PNA exam with a score of 4 or 5. As in the case of Spanish, the abrupt decline in 2020 was due to the changing of the exam to 'optional' for those interested

students in response to the COVID Pandemic. There is a moderate rebound in the number of students taking and passing the PNA.

In regards to the scores on the advanced placement exam (PNA or green trendline): in ADEM, ARCI-A, and CIAG less than 12% of admitted students scored a 4 or 5 on the PNA, while in ARCI-C and INGE less than 25% of admitted students scored a 4 or 5 on the PNA (please see Figure 10).

3.2.3. Mathematics PAA and PNA Scores

Before proceeding to the Mathematics results, it is important to note that there are two distinct PNA tests:

- MATE I (*General University Mathematics Exam*): with a score of 5, students earn credit for MATE 3086 (*Razonamiento Matemático*);
- MATE II (Precalculus exam): with a score of 4 or 5, students earn credit for MATE 3171 and 3172 (Precalculus I and II) or with a score of 3 or more AND a score of 689 on the PAA *(Criterios de Ubicación Avanzada En Español, Inglés y Matemáticas*) students earn credit for MATE 3171 (Precalculus I).
- In Tables 11, 11a, 12 and 12a, the exclusions of students taking the MATE I and MATE II are considered independently.

Figure 11. MATE I: Students who: (1) Scored > 600 on the PAA but not 4 or 5 on the PNA, (2) Scored 5 on the PNA, and (3) Scored >600 on the PAA or 5 on the PNA (sum of 1 and 2).

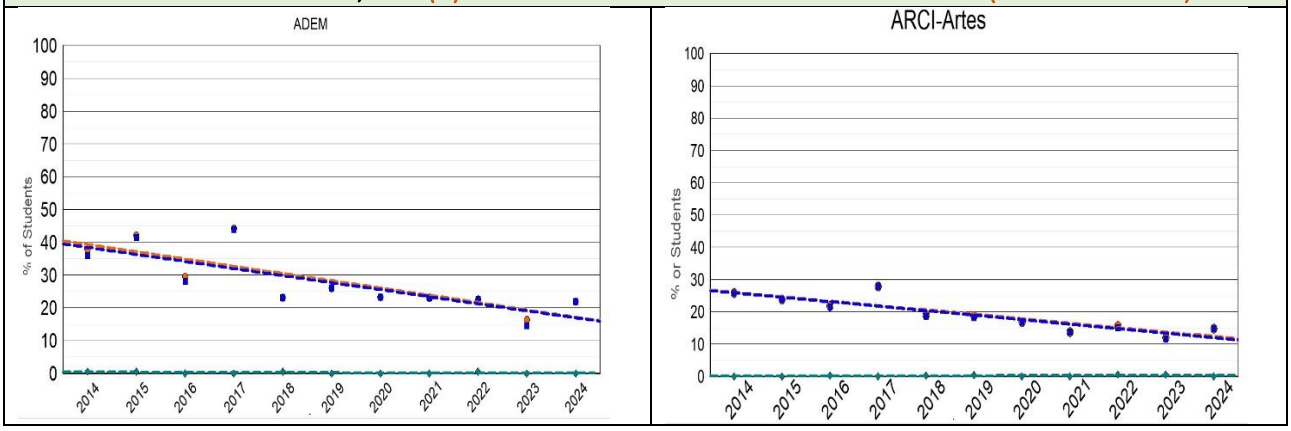
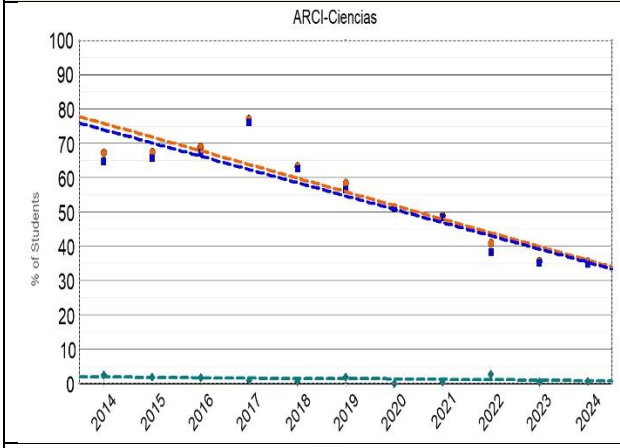
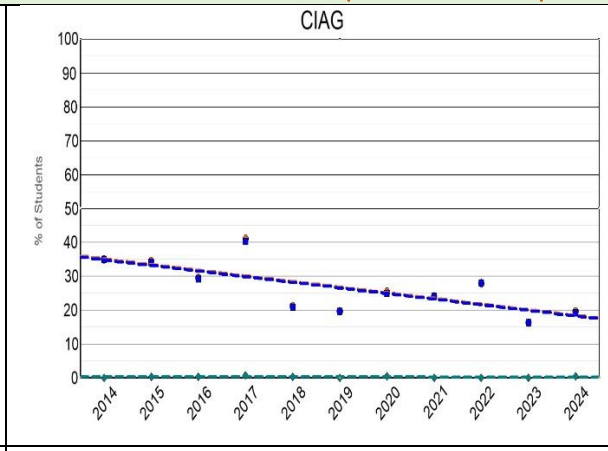
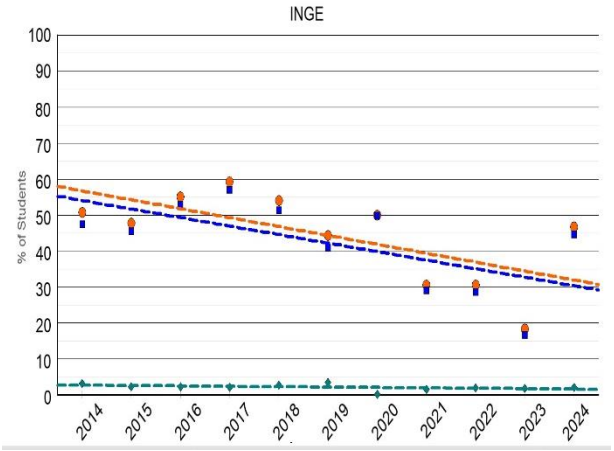


Figure 11. MATE I: Students who: (1) Scored > 600 on the PAA but not 4 or 5 on the PNA, (2) Scored 5 on the PNA, and (3) Scored >600 on the PAA or 5 on the PNA (sum of 1 and 2).







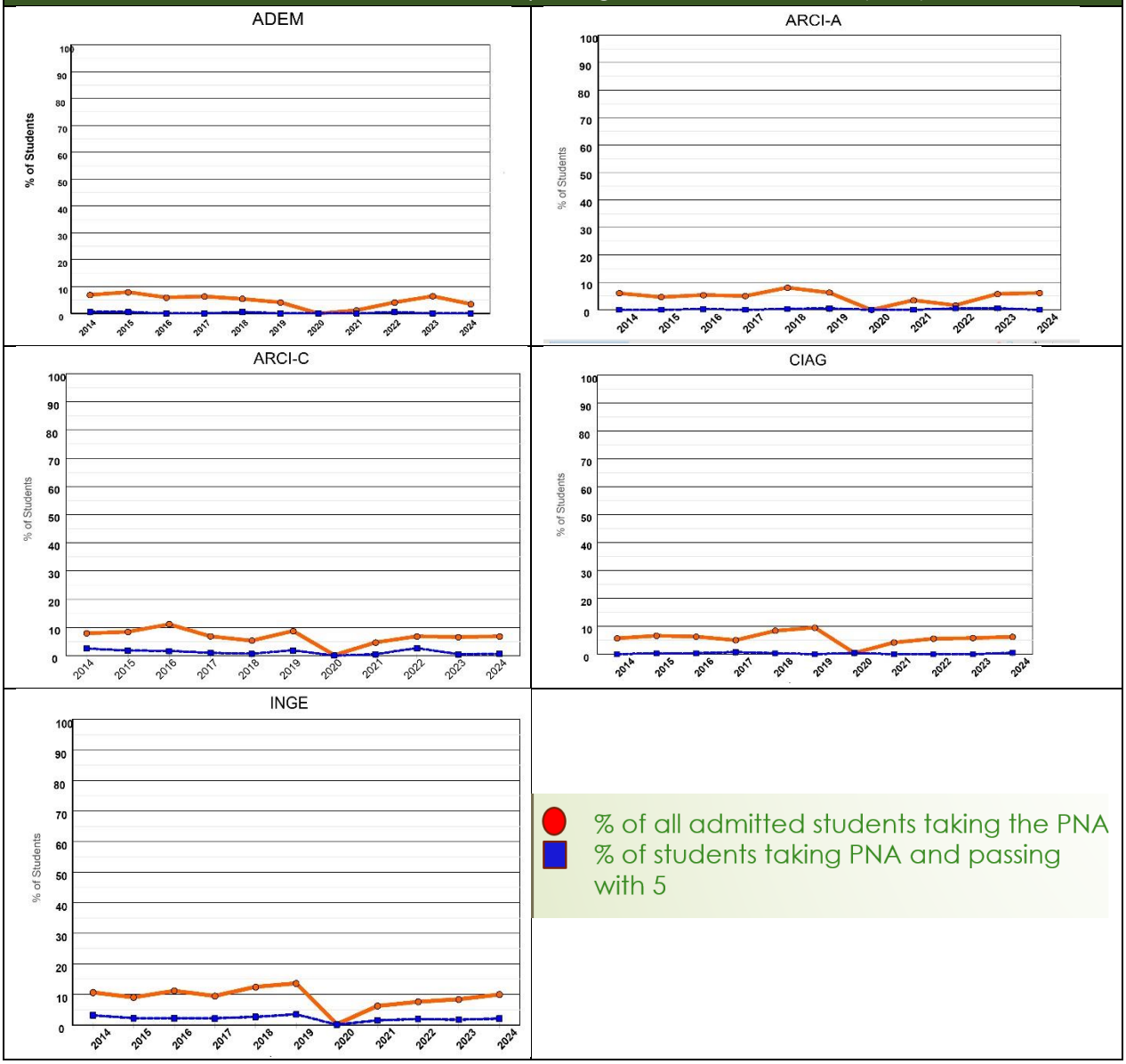
Combined
Scored >600 on PAA, but not 5 on the PNA
Scored 5 on PNA

MATE I (Δ Percentage/Year)					
	ADEM	ARCI-A	ARCI-C	CIAG	INGE
>600 Total PAA	-2.23	-1.37	-3.99	-1.67	-2.48
>600 only PAA	-2.15	-1.40	-3.87	-1.66	-2.37
Only 4 or 5 PNA	-0.03	-0.03	-0.12	-0.01	-0.11

The number of students taking the MATE I (General University Mathematics) advanced placement exam is significantly lower than the number taking the MATE II (or Precalculus) advanced placement exam. The number of students scoring 600 or more, or 5 on the PNA, for the MATE I exam shows a severe decline across the four faculties. By 2023, in the cases of ADEM, ARCI-A, and CIAG, only 20% or less of the students scored 600 or more on the PAA (blue trendline), while in ARCI-C, less than 40% scored 600 or more and in INGE less than 20% scored 600 or more on the PAA.

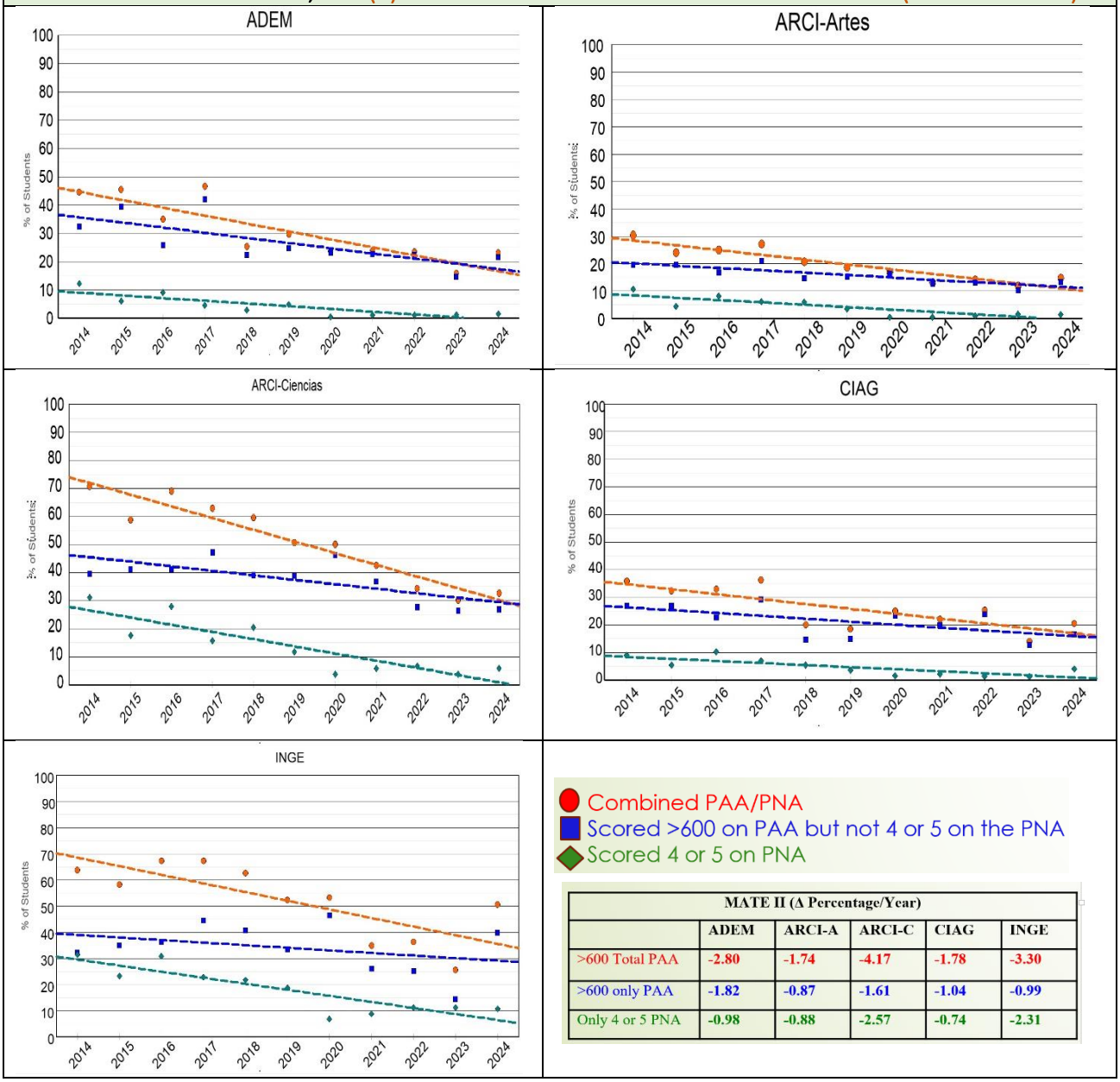
In addition, less than 20% of admitted ADEM, ARCI-A, and CIAG students, and less than 20% of INGE students and less than 40% of ARCI-C students scored 600 or more on the PAA *or* a 4 or 5 on the PNA (orange trendline).

Figure 11a. English: Percent of admitted students taking the PNA (red) compared to Percent of admitted students passing the PNA with a 4 or 5 (blue).



The graphs in Figure 11a show the percentages by year of those students taking the PNA as compared to those who passed the exam with a score of 5. The decline in 2020 was due to the changing of the exam to 'optional' for those interested students in response to the COVID Pandemic. There is a rebound in the number of students taking the exam can be seen and a moderate rebound in the number of students passing the exam with 5 (and receiving college credit). In regards to the scores on the advanced placement exam (PNA or green trendline in Figure 11): in all faculties, less than 5% of admitted students scored a 4 or 5 on the MATE I PNA.

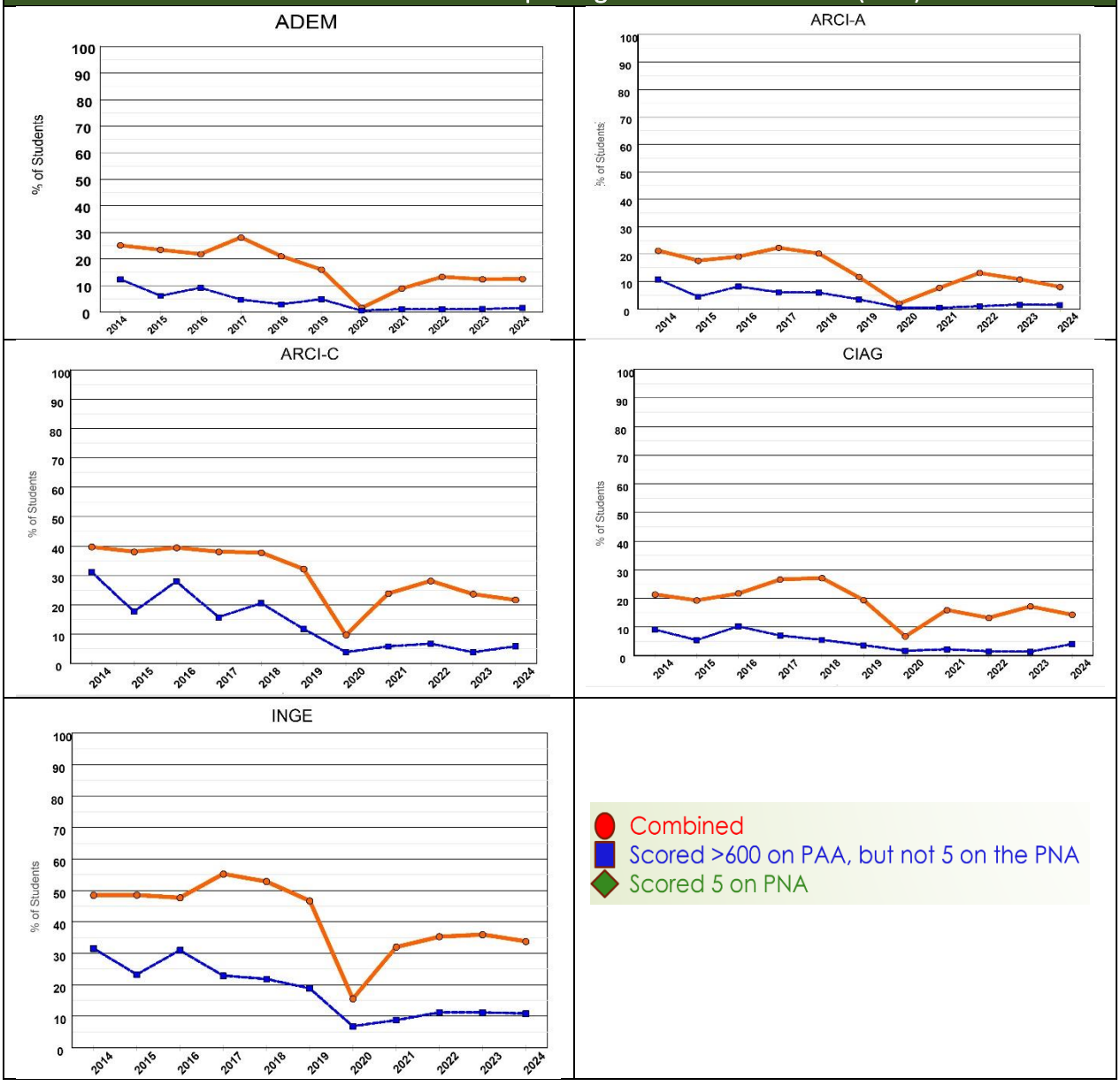
Figure 12. MATE II: Students who: (1) Scored > 600 on the PAA but not 4 or 5 on the PNA, (2) Scored 4 or 5 on the PNA, and (3) Scored >600 on the PAA or 4 or 5 on the PNA (sum of 1 and 2).



MATE II (Δ Percentage/Year)					
	ADEM	ARCI-A	ARCI-C	CIAG	INGE
>600 Total PAA	-2.80	-1.74	-4.17	-1.78	-3.30
>600 only PAA	-1.82	-0.87	-1.61	-1.04	-0.99
Only 4 or 5 PNA	-0.98	-0.88	-2.57	-0.74	-2.31

The number of students scoring 600 or more, or 4 or 5 on the PNA, for the MATE II exam shows a severe decline across the four faculties. By 2024/25, in the cases of ADEM, ARCI-A, and CIAG, only 20% or less of the students scored 600 or more on the PAA or 4 or 5 on the PNA, while in ARCI-C and INGE, less than 40% scored 600 or more on the PAA or 4 or 5 on the PNA.

Figure 12a. MATE II: Percent of admitted students taking the PNA (red) compared to Percent of admitted students passing the PNA with a 4 or 5 (blue).



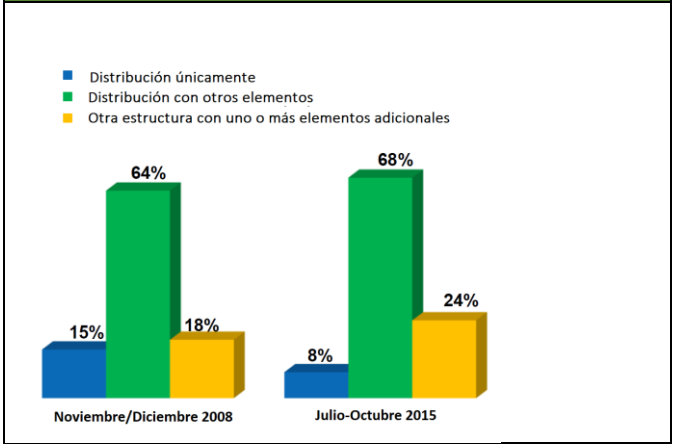
The graphs in Figure 12a show the percentages by year of those students taking the PNA as compared to those who passed the exam with a score of 4 or 5. The decline in 2020 was due to the changing of the exam to 'optional' for those interested students in response to the COVID Pandemic. There is a rebound in the number of students taking the exam can be seen and a

moderate rebound in the number of students passing the exam with 5 (and receiving college credit). In regards to the scores on the advanced placement exam (PNA or green trendline): in ADEM, ARCI-A, ARCI-C, and CIAG less than 5% of admitted students scored a 4 or 5 on the PNA, while in INGE less than 12% of admitted students scored a 4 or 5 on the PNA.

4. Comparable Institutions in Puerto Rico and the United States

In a study on General Education models in institutions affiliated with the AAC&U (2015) only 8% are using a pure distribution of credits by discipline. The large majority, 68%, reported that their programs followed a distribution model, but combined with thematic components (24% used another type of structure as the basis of the design). In reviewing this and other literature, the CIEG recommended and the Academic Senate approved that the General Education model be thematic in content (SA Cert 22-51), given that this structure better aligns the general education component with the students' major concentrations across the university.

Figure 13. General Education Models in US Institutions (AAC&U, 2015).



It is important to emphasize that a model combined with thematic elements is the most widely used in other institutions, in part because its structure is more transparent, understandable and the management of the component is not difficult. It also allows students to have interdisciplinary and integrated experiences.

4.1 Comparable Institutions in the United States

The comparable institutions in the United States have similar student bodies and programs as UPRM. The first seven were recommended by OPIMI to the committee during the 2017/18 academic year. Also, additional institutions were added in order to have a more complete perspective of the general education components used throughout the United States. Some of these institutions include MIT, University of Pennsylvania, University of South Florida, Northern Illinois University, Ohio State University, University of Florida, and Purdue University. Institutions within the UPR System were also studied to fully understand the general education in Puerto Rico. These are the type of institutions whose graduates are those with whom UPRM students are in competition for jobs, and, after entering in the workforce, for promotion. Except for the universities in Puerto Rico, the Committee was unable to find other institutions with general education programs which deliver instruction in two different languages.

Table 3: Examples of Comparable Insitutions in the United States (Distribution 'Plus' Model)

Institution		Land, Sea, Space Grant	Grad Rate	Total Cr	Total GE Cr	% of Total Credits	Areas											
							Communication				Math	Huma	Arte	Ciso	Hist	SoHu	Nat Sci	Otro
							INGL	2nd Lang	ORAL	LITE								
Central Mich [1,4]	AC,B,E		62	124	42	34%	6		3		6	6		6			6	9[6]
East Tenn[3,4]	AC,B,E	Sp	55	128	42	33%	6		3		4	9		6	6		8	
Georgia St System[3,4]	AC,B,CA,E			120	43	35%	6				3	6		9			10	9
Georgia St. Atlanta[3]	AC,B,CA,E		55	120	~42	35%	6				6-7	9	3	9			7-8	
Ball State[1,4]	AC,B,CA,E	Sp, S	64	120	35-46	30-38%	6		3		3-4	3-5	3	2-3	3-6	3	6-9	3[12]
Sam Houston[2,4]	AC,B,CA,E		56	120	42	35%	6				3	3	3	9	3	3	8	4
Louisiana Laf[2,4]	AC,B,E	Sp	51	120	42	35%	6			3	6		3	6	3	3	9[7]	3[9]
Penn State[1,2,3,4]	AC,B,E	L, Sp, S	83	~125	45	30-38%	9				6	6	3	3			3	15[4,8,13]
U Florida	AC,B,E, CA	L, Sp, S	90	120	36	30%	6				6	6		6			6	6
U Georgia	AC,B,CA,E	L, S	87	120	40-42	35%	6				6-7	9	3	9			7-8	
U Wis, Mil	AC,B,E, CA		58	120	42	35%	6[1]	6			6	6	3	6			6	3[6]

1 WID/WI
2 Free electives
3 Shared
4 Adv Placement/Test out
5 Health and Wellness
6. Includes Diversity
7. Laboratory
8. Interdisciplinary
9. Add HUMA and CISO or SCI
10. First Year Seminar
11. Financial Literacy
12. Additional cr Art, Lang, Huma, CISO
L-Land-Grant
S-Sea-Grant
Sp-Space-Grant
AC- Arts and Sciences
B-Business Administration
CA-Agricultural Sciences
E-Engineering

As can be seen in Table 3 above, most of the institutions organized their general education components following a fixed credit amount. In general, 42-45 credits or approximately 35% of a 120 credit program was the norm. All institutions studied allow advanced placement tests for testing out of credits in the various components. The admissions tests (SAT/ACT) are generally used for placement and not testing out of credits. This is similar to the proposed UPRM design. This is also true in universities, such as Northern Illinois University, University of Ohio, and the University of Virginia, College of Arts and Sciences, which have adopted the thematic model, as has been done in UPRM

An analysis of the general education components in the comparable institutions listed in Table 3 shows that the distribution of the general education areas is generally uniform and follow established norms; or 6-9 credits in communication in English, with the University of Wisconsin-Milwaukee adding an additional language to the General Education component, 3-6 credits in Quantitative Reasoning, 6 or more in the Natural Sciences, 6 or more in Humanities, and 6 or more in Social Sciences (there seems to be a general tendency to have approximately 15 credits in the Humanities, Arts, and Social Sciences).

The distribution of areas in these institutions demonstrates that the concept of a 'broad education' implies that students need to be exposed to a variety of areas, including Communication (written

and oral), Quantitative Reasoning, the Natural Sciences, Humanities, Art, and Social Sciences. This is especially true in those institutions which are considered STEM institutions. In all cases, a notable balance is maintained between the parts of the component. No one component part has more weight than the others. In addition, a large majority of the institutions, the requirements are shared in common by all students.

Those institutions which have socio-humanistic credits in the general education component (Sam Houston, Ball State, Louisiana-Lafayette), generally use courses from the Humanities and Social Sciences with little mixing with other areas (such as Communication, Math, Science). Also, the 'Socio-humanistic' is always in addition to the Humanities and Social Sciences areas, not a replacement of those areas. Language and Literature courses are not generally used as replacements for History, Political Science, or Western or Global culture courses. Therefore, this use of the 'Socio-humanistic' is not comparable to the lists used in UPRM. The balance of Math, Science, Language, Humanities and Social Sciences is consistent and equal across institutions. In fact, many of the STEM institutions in the United States emphasize the need for a strong broad GE component because all of the elements provide balance to the students university career (please refer to the section on the HAAS requirement for MIT or the introductory GE statements of the above institutions).

Table 4 below shows the distribution of GE courses in institutions who classify their curricula by the number of classes, not the number of credits. These are institutions with strong STEM programs or are considered STEM universities. Interestingly, a similar type of course/area distribution that was seen in Figure 1 is also seen in these institutions. Furthermore, two prominent institutions and one public institution, MIT, the University of Pennsylvania, and the Georgia University System) have very strong Humanities/Social Sciences components, either one Humanities or Social Sciences course per semester (MIT) or three total years of Humanities and Social Sciences. The College with the least in these areas was the Wharton School of Business of the University of Pennsylvania, but it still includes the equivalent of 6 credits in Humanities and 6 in the Social Sciences. The University of Wisconsin, Milwaukee has a GE component very similar to what we are proposing. It reserves 45 credits for the component and there is an equal distribution between the areas. In addition, this university requires the satisfying of a foreign language (equivalent of 6 credits).

Table 4: Ejemplares de Instituciones Comparables (EEUU): Educación General Clasificada por Número de Clases

Institución	Fac	Land, Sea, Space Grant	Grad Rate	Total CR	Total classes Ed Gen	% del program a	Áreas de Estudio													
							Communication					MATE	HUMA	ARTE	CISO	HIST	NAT SCI	SoHu[6]	INTD	OTRO
							WID[7]	INGL	2nd Lang	ORAL	LITE									
MIT[4]	AC, B, E, CA	L, Sp, S	**90**	~37	~20	~1/5th					4	2	1	1	1		6	5		
U Penn (Tech)[7]	BS, E, CA		**96**	37	16-17	~variable					1	2	6				2	6		1
U Penn (Artes)[7]	AC, BA		**96**		12-16	~1/5th		1	4		1		2	1	2	1	2	1		1
Georgia State Univ[7]	AC, CA, B,E,			120	15-17	~35%	5	2				2	2		3		2			+2-3
Ball State	AC,B,CA,E	Sp	**64**	~120	16-19	~30-48%		3		1		1	1	1	1	+1-2	1	2		+3-5
Purdue[5]	AC, B, E, CA	L, Sp, S	**83**	~120		~25%		2[1]				1	1		2[3]		2	1[2]		

1) This includes 1 written and 1 oral communication course
2) This includes *Information Literacy*
3) This includes *Science, Technology and Society*
4) Requires 1 communication course *per year*
5) *Additional* GE requirements are embedded into the courses or programs. There is a very stringent evaluation format.
6) SoHu is not a all encompassing list as is used in UPRM, but is limited to those courses in the Humanities and the Social Sciences
1/5th : This 1/5th Rule implies 1 course in Humanities, Arts, or Social Sciences per semester.
7) General Education according to Faculty (This would include Cornell) We could not find any with GE determined by the Program.

There are some universities which have very reduced general education components, such as Purdue University. However, Purdue has an additional requirement for embedded GE outcomes which include Communication; Ways of Thinking; Diversity, Equity and Inclusion; and Interpersonal Skills and Intercultural Knowledge. There is in place a very strong evidence-based evaluation of each embedded GE element. Furthermore, there are detailed descriptions for the embedded learning outcomes for Foundational studies; Humanities, Behavioral and Social Sciences, Written Communication, Information Literacy, and Science, Technology and Society; and Diversity, Equity, and Inclusion. The programs must demonstrate with evidence that they are covering the material and measure the achievements of the students in the areas. Purdue revised some courses and programs to include the embedded elements.

4.2 Comparable Institutions in Puerto Rico

The distribution of credits in General Education between the areas of Mathematics, Sciences, Language, Humanities and Social Sciences is quite consistent in all the UPR institutions. In fact, all of the UPR institutions studied, with the exception of UPRM and Humacao, also emphasize in their catalogues the need for a broad and strong general education component to provide balance to the students' college careers.

Table 5 shows that a majority of the institutions in the UPR System have established a fixed amount of credits for the General Education component. Typically this number varies between 42 and 45 credits, or approximately 35% of a 120-credit program. In general, as far as we have been able to determine, the institutions allow the use of advanced placement tests for approving credits in the various components. Admissions tests (PAA) is generally used for placement and not for accrediting courses with a 'P'. These characteristics are similar in the design proposed by the CIEG for the UPRM. In addition, many of the regional colleges have articulated programs with Río Piédras, and therefore follow similar general education guidelines.

Table 5: Comparable Institutions in Puerto Rico									
	ESPA	INGL	MATE	LITE	HUMA	CISO	CIEN	ARTE	MISC
Aguadilla[1]	9	9	6		6	6	6		
Arecibo	9	9	6		6	6	6		
Bayamón[1]	9	9	6		6	6	6		
Carolina[2]	6	6	6		6	6	9		6
Cayey	6	12	6		6	6	6		3
Humacao	Variations from 29-81 credits. There is confusion as to what is General Education								
Mayaguez	Mayaguez does not have an institutional General Education Component. Most requirements have been relegated to the programs.								
Ponce[3]	6	6	3	6	6	6	6	02-Jan	
Río Piedras	6	6	3	6	6	6	6	3	
Utuado[4]	6	6	3		6	6	6		

1) The number of credits is generally 9 in both English and Spanish, but there are some programs with 6 credits in English and Spanish.
2) Carolina is on the Quarter system. The number of credits varies from 34 to 34.
3) Ponce does not list the requirements separately. Also, the Associate degree programs have different requirements.
4) Utuado basically follows Río Piedras, but there are some inconsistencies. Also, most of the programs are Associate programs which have different requirements.

This is seen in the consistent use of, for example, 6-9 credits in both English and Spanish, 3-6 credits in Quantitative Reasoning, 6 or more in Natural Sciences, 6 or more in Humanities and 6 or more in Social Sciences. The distribution of the general education areas in the institutions in the UPR system is, in general, nearly uniform and balanced. Further these institutions generally establish a general education component at an institutional level, thus ensuring compliance with the MSCHE requirements.

4.3 Institutions with thematic General Education structures

Several institutions studied by the Committee have adopted a thematic model (University of South Florida, University of Virginia, College of Arts and Sciences, Ohio State University, Northern Illinois University, Penn State, among many). Three are highlighted here that have a discipline-based core in order to ensure that the students obtain experience in all of the areas. Beyond the core general education curriculum, the students are required to take courses in additional areas, such as Creativity, Arts, Human and Cultural Diversity; Information Literacy; or High Impact Practices. Because a central disciplinary core was established, the courses in the additional areas are not limited to specific disciplines, but can be from a varied mix of disciplines. We should also note that these universities have very robust student data management systems and can attend to the many layers in the general education component. However, the UPRM Registrar has indicated that, in addition to Mathematical Sciences, English and Spanish, the system can attend to around the four areas in the Broad Education section of the component.

University of South Florida

Figure 14 shows the breakdown for the General Education component in the University of South Florida. As can be seen, the component consists of two main areas: the disciplinary core (mandated by law in Florida) and the Enhanced General Education thematic area. This second area includes courses from across the campus and covers areas such as High Impact Practices, Ethical reasoning and Civic Engagement, Creative Thinking and Human and Cultural Diversity.

Figure 14. General Education Component at the University of South Florida

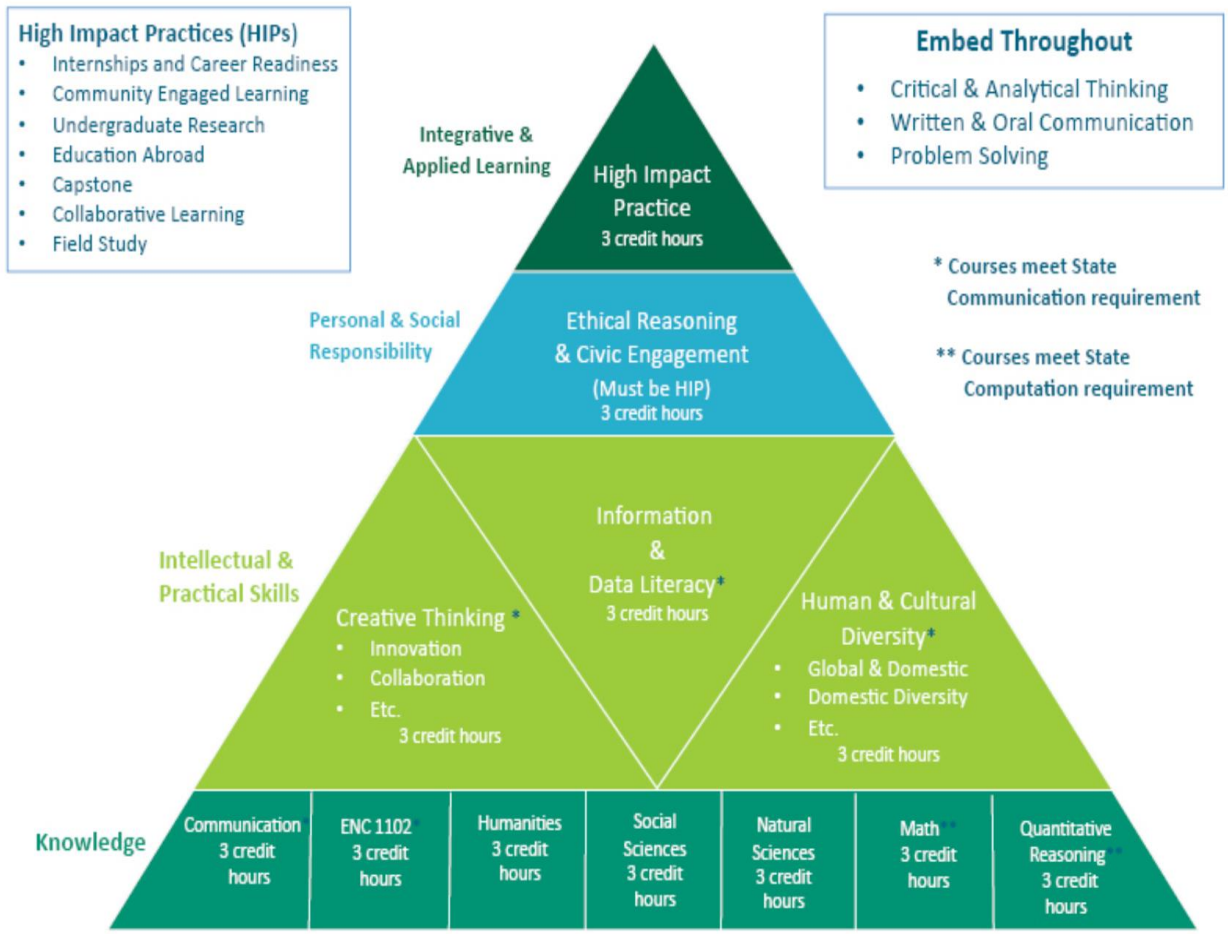
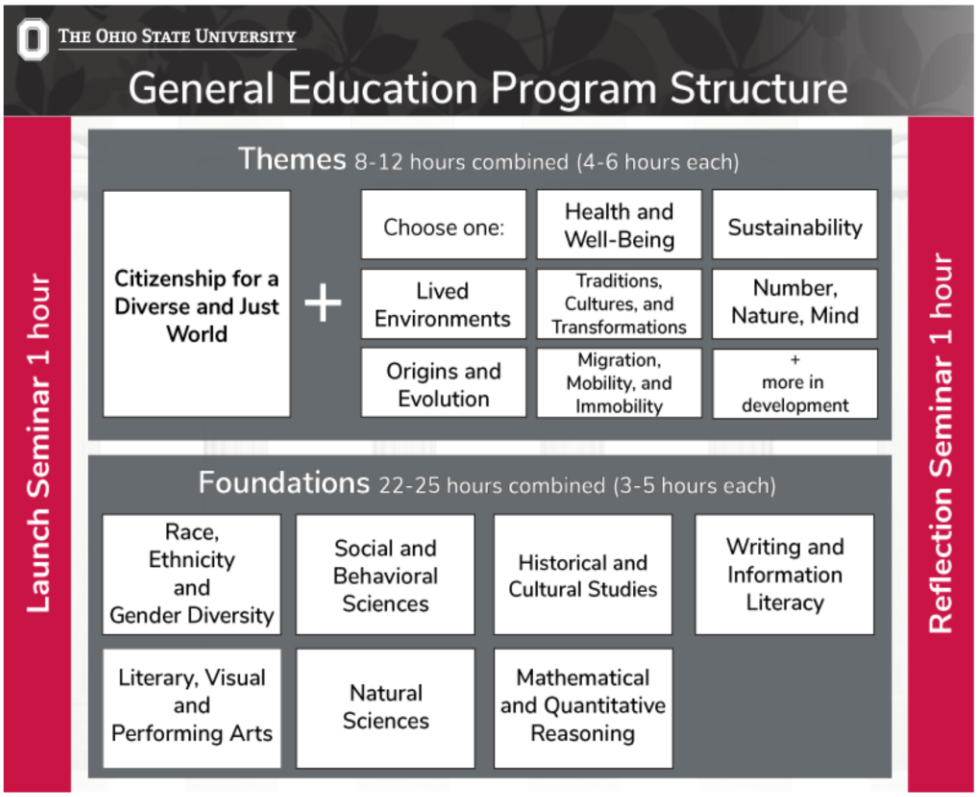


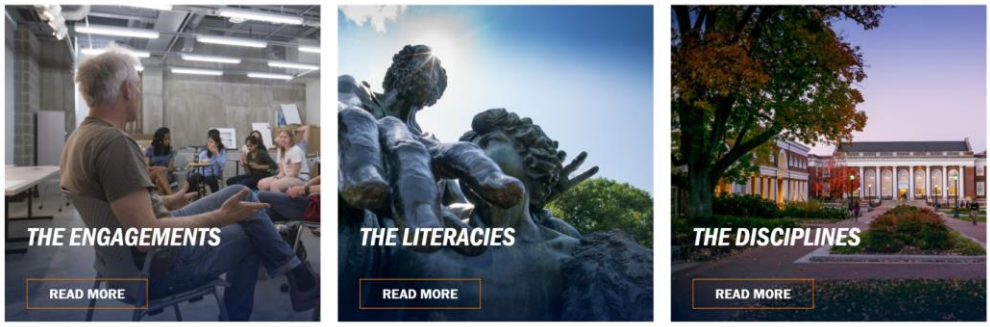
Figure 15. General Education Component at the Ohio State University



.The General Education Component of the Ohio State University, illustrated in Figure 15, is also divided into two main sections: one covering the foundations and the other specific thematic areas. Both major sections are divided into thematic sub-areas. A disciplinary base can be seen in the divisions within the Foundations area, while the Themes area permits courses from across the disciplines (including interdisciplinary) that deal with the title of the topic.

The College of Arts and Sciences of the University of Virginia recently revised their General Education Component. As can be seen in Figure 16, the structure has three main areas. In *The Engagements* section is a series of smaller seminar-like courses that allow the first-year students to work and interact with scholars and teachers from around the campus on a variety of topics, similar to the Creative and Integrated Expressions in the UPRM proposed component. The area of *The Disciplines* is equivalent to the proposed Broad Education part of the UPRM component. *The Literacies* area is equivalent to the proposed Foundational Competencies of the UPRM component.

Figure 16. General Education Component at Virginia Tech.



Northern Illinois University has divided their General Education Component into two main categories: Foundational Studies, which includes core courses in Communication and Mathematics, and Knowledge Domains, which includes the subareas of Creative and Critical Analysis, Nature and Technology, and Society and Culture. The Knowledge Domains areas at Northern Illinois University seems to be a list of various courses which are loosely related to a topic. However, to bring coherence to the zones, short 3 course Thematic Pathways were developed to enhance the general education experience.

In summary, these universities are good examples of the application of thematic models which emphasize the importance of a 'broad education' and the necessary skills in communication and quantitative reasoning while exposing the students to a diversity of disciplines and perspectives in the humanities, social sciences and natural sciences.

5. The Structure of the General Education Component with Corresponding Credit Load

5.1 Developmental Process

The General Education component is divided into two main categories: Fundamental Competencies (*Competencias fundamentales*) and Broad Education (*Educación Amplia*). The category of Fundamental Competencies attends to the areas of communication and quantitative reasoning, while the Broad Education category is designed to involve the students in areas outside of their majors. The division into these two main categories is aligned with the UPRM Philosophy of General Education and attend to all three sections of the Philosophy.

The process for designing the General Education component began in August of 2020. During this time, there have been major milestones in the revision process. It is important to highlight that the committee met on a weekly basis for the academic years 2020/21, 2021/22, 2022/23, 2023/24, in order to complete the Academic Senate's assignment for the Committee. The chart below details the certifications and results of the CIEG committee (including all of the various manifestations of the committee).

Table 6. Summary of CIEG Certifications and Results

Date	Cert/ Memo	Description	Comments
7/Feb/2007	**---**	*General Education Assessment Plan* created by the General Education Assessment Task Force of the office of OMCA	Submitted 7 Feb 2007. This ended the Committees recommendation.
Abril/2010	**10-14**	The Philosophy of General Education was approved by the Academic Senate	Approved by the SA in April 2010. The document also indicates that the SA should "instruct its Academic Affairs Committee to make recommendations for the creation of a Committee."
16/Oct/2012	**12-55**	Creation and constitution of the first CIEG Tasks: Establish a work plan with objectives according to guidelines in the Cert. HS 10-14; be presented to the SA before March 2013 for consideration and approval.	8/mayo/14: Work plan of CIEG with mission/vision/objectives delivered to SA.
16/sept/2016	**14-50**	The mission, vision and objectives of the CIEG supported by the SA Task: strengthen, revise and review general education	16/sept/2014: The tasks were approved by the SA. This report concluded this recommendation.
17/Oct/2016	**---**	Continuation of work under Cert. 14-50. New Task: SLOS Review (Certification Objective #4)	24/Oct/2016: New SLOs delivered to SA. They were approved in April 2018 by the SA.

Table 6. Summary of CIEG Certifications and Results			
Date	Cert/ Memo	Description	Comments
13/did/2016	**16-88**	Amend 12-55 (the reason: lack of quorum at meetings) Reorganization of CIEG. Members now appointed by the deans. Tasks: Track 12-55 tasks and report progress annually.	The second CIEG (formed by Certification 16-88) began its work in August 2017.
20/Oct/2017	**Directriz oficial**	Directive from the Interim Rector Santiago - ordering the reduction of credits and the delivery of a work plan to review the curricula by December 11, 2017	See Certification 19-47 for the SA's response to this directive. The CIEG had to shelve the 2017 developing plan and start from scratch.
4/did/2017	**memo**	Memo from the Dean of Academic Affairs instructing programs not to consider general education credits in curricular reviews.	This is consistent with recommendation #4 of the 2021 Progress Report to the Academic Senate
11/did/2017	**---**	The Report and work plan of the CIEG (in accordance with the guideline) submitted to the Rector as president of the SA.	Sent to the Interim Rector's office on December 11, 2017, but there is no certification from the Academic Senate corresponding to it. The document was not forwarded to the Academic Senate.
2017-2018			The CIEG continued its work until September 2019. It was finishing a general education structure with 1) # of credits, 2) # shared credits, 3) basic structure.
13/abr/2018	**18-25**	Certification approving and adopting the new general education SLOs by the SA	
Sept/2018	**(16-88)**	Reorganization of CIEG (as an effect of cert 16-88) Some deans changed the representatives to the Committee.	The second CIEG had developed a draft of a structure in which the basic elements of the structure were articulated. It was planned to be submitted to the SA in Oct 2018. This basic structure and results were archived due to restructuring of the committee in Sept of 2018. In January 2019, the third CIEG committee started began working from scratch.
3/sept/2019	**19-65**	The CIEG committee that functioned from September 2018 to May 2019 submitted a transitional GE plan to the SA.	Academic Senate Decision: Leave the work carried out during the period from August 2018 to May 2019 (Cert. 19-65) on the TABLE "until a formal presentation is made that goes beyond the details contained in the report".
3/sept/2019	**19-66**	The CIEG report was received. The third CIEG committee was replaced with a fourth, elected, committee.	Cert. 19-66 Cert. 19-67; 19-68
3/sept/2019	**19-67**	Reorganization and reconstitution of the fourth CIEG: It is now a committee of SA.	Cert. 19-67. Elections of 12 new members. 3 from ARCI; 2 from ADEM; 2 from CIAG; 2 from INGE; 2 student reps, 1 from the Library.
3/sept/2019	**19-68**	Re-activate and reform CIEG created by the Cert. #19-65.	The Fourth CIEG committee consists of 12 new members, elected by faculty/body: 3 from ARCI; 2 from ADEM; 2 from CIAG; 2 from INGE; 2 student reps, 1 from the Library
3 sept 2019	**19-69**	CIEG was instructed to consider the September 3, 2019 SA meeting when designing its work plan	May/2021: Information from the September 3, 2019 meeting included in the May 18, 2021 work plan

Table 6. Summary of CIEG Certifications and Results			
Date	Cert/ Memo	Description	Comments
3/sept/2019	19-70	Instructions that the representatives be chosen by their powers prior to the first meeting of the committee.	Cert. 19-70
8/jun/2020		First meeting of the fourth CIEG convened by the representative of the Rector and according to Cert. # 19-67	The CIEG had to start from scratch due to the new composition of the committee and the feedback from the 19 Sept. 2019 Senate meeting.
25/May/2021	Cert 21-51	Presentation of the fourth CIEG work plan and the General Education Definition.	Approved by the Academic Senate 25 May 2021.
17/May/2022	Cert. 22-51	Presentation of the model structure for the General Education Component.	Approved by the Academic Senate: 17 May 2022
2022/23		Workshops for the academic community concerning the proposed structure and course requirements	
2023-present		Presentation to the academic community of the draft of the general education basic structure	
2023-2024		Meetings with the various departments and student leaders and groups concerned with General Education	
December 2023		Draft plan of the GE Component sent to all members of the academic community for comments and suggestions.	
January-April 2024		Meetings and other communications with the academic community concerning responses to the draft plan.	
May/June 2024		Meetings with faculty, the Middle States Steering Committee and the *Junta Administrativa*.	

5.2 Alignment of the proposed General Education component with the Criteria for the Middle States Association on Higher Education (MSCHE), the UPRM General Education Definition, the UPRM General Education Philosophy and the UPR System Strategic Plan 2024-28

The proposed General Education component has been aligned with the following major documents (Please see Section 6 for a more detailed examination of the Alignment with the Middle States Association):

1. General Education Criteria for the Middle States Association (Standard III, Section 5)
2. UPRM Mission
3. UPRM General Education Definition (SA Cert. 21-51)
4. UPRM General Education Philosophy (SA Cert. 10-14)
5. UPR System Strategic Plan 2023-28
6. Additional Academic Senate Certifications:
    a. Mission and objectives of CIEG (SA Cert 14-50);

b. Formation of the current CIEG committee (SA Certs. 19-65, 19-66, 19-67, 19-68, 19,69, 19-70);
c. CIEG work plan (SA Cert. 21-51)
d. Approved General Education structure (SA Cert. 22-51)

5.3 Credits Shared Between the Major Concentration and General Education

The concept of shared credits or courses between the General Education component and the major concentration has been incorporated into the structure. This is true for Logical and Quantitative Reasoning, Scientific Thought and Reasoning, English and Spanish. This is explained in each of the sections dealing with the proposed structure below.

5.4 Academic Community Involvement:

All representatives kept their faculties (on a yearly basis) informed of the committee's results and decisions. In addition, the committee, or representatives of the committee, met on various occasions with the departments English, Hispanic Studies, Mathematical Sciences, Humanities, and Social Sciences.

1. During the months of September to November 2022, CIEG members offered five (5) orientation workshops for the academic community. In these presentations, the presenters discussed the general education model approved by the Academic Senate in May 2022 and the process for submitting courses for consideration in the general education component. The workshops were open to the entire community and were offered at locations around campus. (See Appendix D). At these meetings, participants presented their concerns. Among them are some important questions, such as 1) how faculties that do not have courses without requirements or open to all students can participate in the component, 2) how we are going to determine the thematic areas and their content, 3) Will the committee consider placement or challenge exams and 4) how we are going to determine the number of credits.
2. A draft of the General Education Structure was sent to all members of the academic community for their feedback. CIEG provided an email address for submitting comments and questions about the structure. The comments and suggestions provided by the community were discussed on a regular basis in the meetings. Also, the Committee met with student representatives to present the structure and to discuss with them the importance of their participation in this process.
3. The feedback provided by the Academic Community, including the students, faculty, the Chancellor, and the Deans, was considered. It is the opinion of the Committee that the General Education component attend to the academic needs of the students.
4. The Committee did discuss the impact on the programs and considers that this is the best format that attends to the students' academic needs, within the credit ranges established at peer institutions.

6. Proposed General Education Component with Credits

Any well-designed general education component necessarily attends to *both* the basic fundamentals and breadth of exposure to diverse areas or disciplines. For this reason, the proposed plan calls for two broad areas within the component: Fundamental Competencies and Broad Education. Table 7 provides a summary of the recommended General Education component. All Advanced credit is approved according to SA Certifications 88-24 and 94-04.

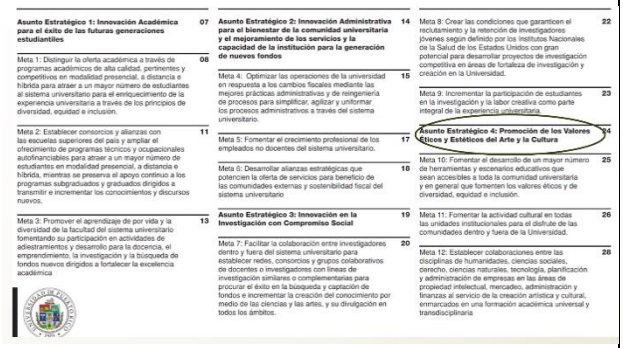
<table>
<tr><th colspan="2">The following table includes the changed proposed and approved by the Hispanic Studies Department on 22 August 2024.</th></tr>
<tr><th>FUNDAMENTAL COMPETENCIES</th><th>BROAD EDUCATION</th></tr>
<tr><td>Quantitative and Logical Reasoning (6 crs)
• 3 crs from the MATE code
• 3 crs from a more ample list with possibilities from all faculties</td><td>Scientific Thought and Reasoning (6 crs)
• 3 crs in the Natural Sciences
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td rowspan="2">Communication: English (9 crs)
Placement levels determined by Dept.
1. Advanced-4 ó 5 en la PNA: 3 crs in a second year course; 6 basic crs approved with ‘P’
2. Intermediate-PAA score determined by the Dept & not 4 or 5 on PNA: 3 crs in a second year course; 6 credits in first year courses. (currently: PAA=560-800)
3. Basic--PAA score determined by the Dept & not 4 or 5 on PNA. 3 crs in a second year course; 6 credits in first year courses (currently: PAA=200-559)</td><td>Society, Culture, and the Individual (6 crs)
• 3 crs from a specific list of courses
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td>Historic and Global Perspectives (6 crs)
• 3 crs from a specific list of courses
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td>Communication: Spanish (9 crs)
1. PNA score of 4 or 5 or PAA score of 650 or more: 3 crs in a second year course; 6 crs-ESPA 3101-3102 or ESPA 3131-3132 approved with ‘P’.
2. PNA score of 615-549 & not 4 or 5 on the PNA: 3 crs in a second year course; 3 credits in first year course; ESPA 3101 or ESPA 3131 approved with ‘P’.
3. PAA score of 614 or less and not 4 or 5 on the PNA: 3 crs second year course; 6 crs-ESPA 3101-3102 or ESPA3131-3132.
4. Less than 500 on the PAA rquires correquisite support.</td><td>Creative and Integrated Expressions (3 crs)
• 3 crs from a master list of courses
• Examples of areas: ARTE, MUSI, TEAT, CIAG, CINE, INGL, ESPA, cursos interdisciplinarios, COOPS, Internships, community service (subject to approval by CIEG)</td></tr>
</table>

The following table presents the original divisions presented to the Senate on 27 August 2024.

<table>
<tr><th>FUNDAMENTAL COMPETENCIES</th><th>BROAD EDUCATION</th></tr>
<tr><td>Quantitative and Logical Reasoning (6 crs)
• 3 crs from the MATE code
• 3 crs from a more ample list with possibilities from all faculties</td><td>Scientific Thought and Reasoning (6 crs)
• 3 crs in the Natural Sciences
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td rowspan="2">Communication: English (9 crs)
Placement levels determined by Dept.
4. Advanced-4 ó 5 en la PNA: 3 crs in a second year course; 6 basic crs approved with ‘P’
5. Intermediate-PAA score determined by the Dept & not 4 or 5 on PNA: 3 crs in a second year course; 6 credits in first year courses. (currently: PAA=560-800)
6. Basic--PAA score determined by the Dept & not 4 or 5 on PNA. 3 crs in a second year course; 6 credits in first year courses (currently: PAA=200-559)</td><td>Society, Culture, and the Individual (6 crs)
• 3 crs from a specific list of courses
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td>Historic and Global Perspectives (6 crs)
• 3 crs from a specific list of courses
• 3 crs from a more ample list with possibilities from all faculties</td></tr>
<tr><td>Communication: Spanish (9 crs)
1. Only PNA score of 4 or 5: 3 crs in a second year course; 6 crs-ESPA 3101-3102 or ESPA 3131-3132 approved with ‘P’.
2. 200-800, but not 4 or 5 on the PNA: ESPA 3101-3102 or ESPA3131-3132 are required..</td><td>Creative and Integrated Expressions (3 crs)
• 3 crs from a master list of courses
• Examples of areas: ARTE, MUSI, TEAT, CIAG, CINE, INGL, ESPA, cursos interdisciplinarios, COOPS, Internships, community service (subject to approval by CIEG)</td></tr>
</table>

Table 8: Alignment with the MSCHE Criteria for General Education (Versions 13 and 14)	
MSCHE GE Criteria	**Result**
Cultural and Global Awareness	Society, Culture and the Individual; Global and Historic Perspectives; Creative and Integrated Expressions
Cultural Sensitivity	Society, Culture and the Individual; Global and Historic Perspectives; Creative and Integrated Expressions
Make well-reasoned judgments outside as well as within their academic field	Broad Education: Quantitative and Logical Reasoning
Communication	English Communication, Spanish Communication
Scientific and Quantitative Reasoning	Quantitative and Logical Reasoning, Scientific Reasoning and Thought
Critical Analysis and Reasoning	Broad Education
Values and Ethics	Society, Culture and the Individual; Global and Historic Perspectives; Creative and Integrated Expressions
Diverse Perspectives; Guiding Principle 3	Society, Culture and the Individual; Global and Historic Perspectives; Creative and Integrated Expressions
Technical Competency; Information Literacy	Within the Communication and Broad Education divisions of the Component
Guiding Principle 3 (Diversity)	Society, Culture and the Individual; Global and Historic Perspectives; Creative and Integrated Expressions, English Communication, Spanish Communication

Figure 17: Alignment with the UPR 2023-28 Systemic Strategic Plan



Asunto Estratégico 1: Innovación Académica para el éxito de las futuras generaciones estudiantiles 07

Meta 1: Distinguir la oferta académica a través de programas académicos de alta calidad, pertinentes y competitivos en modalidad presencial, a distancia e híbrida para atraer a un mayor número de estudiantes al sistema universitario para el enriquecimiento de la experiencia universitaria a través de los principios de diversidad, equidad e inclusión. 08

Meta 2: Establecer consorcios y alianzas con las escuelas superiores del país y ampliar el crecimiento de programas técnicos y ocupacionales autofinanciables para atraer a un mayor número de estudiantes en modalidad presencial, a distancia e híbrida, mientras se preserva el apoyo continuo a los programas subgraduados y graduados dirigidos a transmitir e incrementar los conocimientos y discursos nuevos. 11

Meta 3: Promover el aprendizaje de por vida y la diversidad de la facultad del sistema universitario fomentando su participación en actividades de adiestramientos y desarrollo para la docencia, el emprendimiento, la investigación y la búsqueda de fondos nuevos dirigidos a fortalecer la excelencia académica 13

Asunto Estratégico 2: Innovación Administrativa para el bienestar de la comunidad universitaria y el mejoramiento de los servicios y la capacidad de la institución para la generación de nuevos fondos 14

Meta 4: Optimizar las operaciones de la universidad en respuesta a los cambios fiscales mediante las mejores prácticas administrativas y de reingeniería de procesos para simplificar, agilizar y uniformar los procesos administrativos a través del sistema universitario. 15

Meta 5: Fomentar el crecimiento profesional de los empleados no docentes del sistema universitario. 17

Meta 6: Desarrollar alianzas estratégicas que potencien la oferta de servicios para beneficio de las comunidades externas y sostenibilidad fiscal del sistema universitario 18

Asunto Estratégico 3: Innovación en la Investigación con Compromiso Social 19

Meta 7: Facilitar la colaboración entre investigadores dentro y fuera del sistema universitario para establecer redes, consorcios y grupos colaborativos de docentes o investigadores con líneas de investigación similares o complementarias para procurar el éxito en la búsqueda y captación de fondos e incrementar la creación del conocimiento por medio de las ciencias y las artes, y su divulgación en todos los ámbitos. 20

Meta 8: Crear las condiciones que garanticen el reclutamiento y la retención de investigadores jóvenes según definido por los Institutos Nacionales de la Salud de los Estados Unidos con gran potencial para desarrollar proyectos de investigación competitiva en áreas de fortaleza de investigación y creación en la Universidad. 22

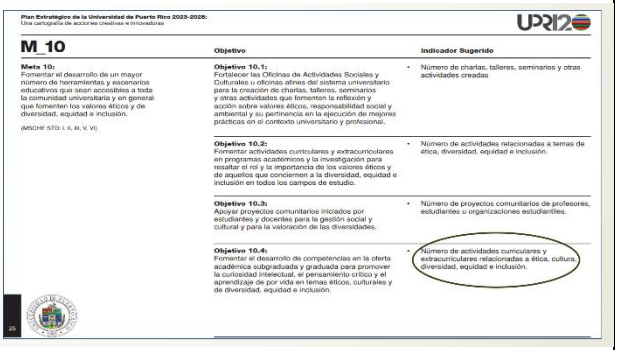
Meta 9: Incrementar la participación de estudiantes en la investigación y la labor creativa como parte integral de la experiencia universitaria 23

Asunto Estratégico 4: Promoción de los Valores Éticos y Estéticos del Arte y la Cultura 24

Meta 10: Fomentar el desarrollo de un mayor número de herramientas y escenarios educativos que sean accesibles a toda la comunidad universitaria y en general que fomenten los valores éticos y de diversidad, equidad e inclusión. 25

Meta 11: Fomentar la actividad cultural en todas las unidades institucionales para el disfrute de las comunidades dentro y fuera de la Universidad. 26

Meta 12: Establecer colaboraciones entre las disciplinas de humanidades, ciencias sociales, derecho, ciencias naturales, tecnología, planificación y administración de empresas en las áreas de propiedad intelectual, mercadeo, administración y finanzas al servicio de la creación artística y cultural, enmarcadas en una formación académica universal y transdisciplinaria 28



Plan Estratégico de la Universidad de Puerto Rico 2023-2028:
Una cartografía de acciones creativas e innovadoras

UPR 120

M_10

Objetivo	Indicador Sugerido
Meta 10: Fomentar el desarrollo de un mayor número de herramientas y escenarios educativos que sean accesibles a toda la comunidad universitaria y en general que fomenten los valores éticos y de diversidad, equidad e inclusión. (MSCHE STD. I, II, III, V, VI)	
Objetivo 10.1: Fortalecer las Oficinas de Actividades Sociales y Culturales u oficinas afines del sistema universitario para la creación de charlas, talleres, seminarios y otras actividades que fomenten la reflexión y acción sobre valores éticos, responsabilidad social y ambiental y su pertinencia en la ejecución de mejores prácticas en el contexto universitario y profesional.	• Número de charlas, talleres, seminarios y otras actividades creadas
Objetivo 10.2: Fomentar actividades curriculares y extracurriculares en programas académicos y la investigación para resaltar el rol y la importancia de los valores éticos y de aquellos que conciernen a la diversidad, equidad e inclusión en todos los campos de estudio.	• Número de actividades relacionadas a temas de ética, diversidad, equidad e inclusión.
Objetivo 10.3: Apoyar proyectos comunitarios iniciados por estudiantes y docentes para la gestión social y cultural y para la valoración de las diversidades.	• Número de proyectos comunitarios de profesores, estudiantes u organizaciones estudiantiles.
Objetivo 10.4: Fomentar el desarrollo de competencias en la oferta académica subgraduada y graduada para promover la curiosidad intelectual, el pensamiento crítico y el aprendizaje de por vida en temas éticos, culturales y de diversidad, equidad e inclusión.	• Número de actividades curriculares y extracurriculares relacionadas a ética, cultura, diversidad, equidad e inclusión.

6.1 Fundamental Competencies

The Fundamental Competencies area addresses the competencies of effective communication in Spanish and English and quantitative reasoning mentioned in the UPRM Philosophy of General Education. As detailed in section 3, the committee used the *Prueba de Admisiones* (PAA) and the *Prueba de Nivel Avanzado* (PNA) score data provided by OPIMI for the academic years 2014-2023 in the decision making process. We generally found that preparation, as measured by the numbers of students taking the exams as well as their performance, to be in consistent decline throughout the past five years. That helped inform the design of the component. In addition, the PAA only measures the possibility of the students' success in the first year of their university studies, and not as a mechanism to assign college credit.

In reaching its decisions for this category, the committee considered various factors. Although the committee recognizes the potential impact of increasing credits in some programs, in the end the data that was studied clearly shows a trend of decreased student proficiency in the topic areas that correspond to the 'Fundamentals' in the proposed plan.

When addressing the credit load, SA Certification 88-24 was taken into account, which specifically states:

1. The UPRM programs will include requirements for basic English, Basic Spanish and precalculus (*Los programas del Recinto tendrán requisitos de inglés básico, de español básico y de precalculo*.)

2. University level credit will be granted to those students who receive a score of 4 or 5 on the Advanced Placement Exam in English. This credit will be granted for the six (6) credits of the basic course in English. (*Se otorgará crédito universitario a los estudiantes que obtengan una puntuación de 4 ó 5 en la prueba de nivel avanzado en inglés. Este crédito se otorgará por los seis créditos del curso básico en inglés*.)

3. University level credit will be granted to those students who receive a score of 4 or 5 on the Advanced Placement Exam in Spanish. This credit will be granted for the six (6) credits of the basic course in Spanish. (*Se otorgará crédito univesitario a los estudiantes que obtengan una puntuación de 4 ó 5 en la prueba de nivel avanzado en español. Este crédito se otorgará por los seis créditos del curso básico de español*.)

4. University level credit will be granted:

    a. to those students who receive a score of 4 or 5 on the Advanced Placement Exam I in Mathematics. This credit will be granted for the three (3) credits of the course MATE 3171. (*Se otorgará crédito universitario a los estudiantes que obtengan 4 ó 5 en la prueba de nivel avanzado I en matemática. El crédito se otorgará por los tres créditos del curso de MATE 3171.)*

b. to those students who receive a score of 4 or 5 on the Advanced Placement Exam II in Mathematics. This credit will be granted for the six (6) credits of the course MATE 3171 y MATE 3172 or the five (5) credits for the course MATE 4005. (*Se otorgará crédito universitario a los estudiantes que obtengan 4 ó 5 en la prueba de nivel avanzado II en matemática. El crédito se otorgará por los seis créditos de los cursos de MATE 3171 y MATE 3172 ó los cinco créditos del curso MATE 3005.*)

5. The Departments of English, Spanish and Mathematics will submit to the Faculty of Arts and Sciences for its approval of the placement criteria that will be used for the granting of advanced placement. *(Los departamentos de Inglés, de Español y de Matemáticas sometarán a la Facultad de Artes y Ciencias para su aprobación los criterios que se utilizarán para otorgar la ubicación avanzada*.)

The Committee recommendations follow the criteria for the placement levels according to the this Certification and the current placement levels approved by the departments and the Faculty of Arts and Sciences (please see point 5 of Certification 88-24 above).

6.1.1 Quantitative and Logical Reasoning

Based upon a study of the data and the meetings with the Department of Mathematical Sciences, the Committee proposes the following criteria for the Quantitative and Logical Reasoning requirement of the Fundamental Competencies category of the General Education component:

The study of logical and quantitative reasoning, which is crucial to all areas, creates pathways for students to discover how mathematics and logical reasoning facilitate the understanding of complex systems and patterns. The ability to identify or create patterns, as well as make informed decisions from available data, weigh evidence, and understand probabilities. Mathematics is a fundamental tool for all areas of study and strengthens problem-solving skills, analytical thinking, and critical thinking. The development of quantitative or logical reasoning skills is essential to being an informed and productive citizen in order to avoid the fallacies and pitfalls that frequently surround the use of quantitative information.

(Proposed requirements)

a. 6 credits total
b. Students will be able to select courses from a list of logical or quantitative reasoning courses, potentially from all faculties. Each program may recommend specific courses.
c. A minimum of 3 credits of MATE courses must be selected. The remaining 3 credits may be selected from an approved list of courses, which could include offerings from all colleges.
d. The students' placement in the appropriate level will follow the current advanced placement methods according to SA Certifications 88-24 and 94-4 and the criteria of the Department of Mathematical Sciences.

e. Any course in this component that is part of a program's curriculum may count toward the Quantitative and Logical Reasoning requirement, if the requirements in the preceding bullet points are met.
f. The Committee invites the creation of additional courses for inclusion in the area of Quantitative and Logical Reasoning.

Discussion.

1. The mathematical abilities of the entering students varies widely from college to college with a higher percentage of those in the scientific or technological fields scoring 4 or 5 on the PNA (MATE 2) and therefore having the option of entering directly into Calculus I. However, although there are more in these fields taking the PNA, it is still a small fraction of the total number of entering students. This supports the stance of maintaining the minimum number of credits at 6 for all students, thus ensuring that those in the non-scientific fields have experience in mathematics.

2. The grade distribution within the courses MATE 3086, MATE 3171, MATE 3172, and ESMA 3015 all indicate the need for these 6 proposed credits in quantitative and logical reasoning on the basis that a substantial number of students earn a grade of "C" or lower in these courses.

6.1.2 and 6.1.3 Communication

In their communication courses, UPRM students not only improve their skills to communicate information clearly but also learn to present arguments persuasively and appropriately, both orally and in writing.

University-level communication skills require students be able to effectively manage the following four essential abilities: 1) develop the ability to analyze and correctly interpret verbal and written information so as to not be misled, 2) effectively develop, analyze, and explain arguments both within and outside the field of expertise, 3) express ideas and concepts clearly and concisely, and 4) effectively communicate ideas, in written or oral form, appropriate for different audiences. The Spanish and English classes that form the backbone of the communication requirement, provide a foundation for this as well cross-boundary skills that have identified by employers as of major importance for recent college graduates.

6.1.2 English Communication

(Proposed requirements)

Based upon a study of the data and the meetings with the Departments of the English Language and Literature, the Committee proposes the following criteria for the English requirement of the Fundamental Competencies category of the General Education component:

a. General Education Requirement: 9 credits total, including 3 credits in an advanced or second year course
b. The general requirement considers the broad diversity in students' abilities and preparation in English.
c. The student's potential advanced placement will follow current college placement methods under SA Certification 88-24. (This format has already been approved by the Senate in Cert. 88-24)
d. Levels and credits by level:
    i. Advanced: 3 advanced level credits with 6 basic credits approved by the application of the SA Certification 88-24 (only with 4 or 5 on the PNA).
    ii. Intermediate: based on a score on the PAA determined by the English Department (currently 560 and without a 4 or 5 on the PNA). Total number of credits: 9.
    iii. Basic: based on the students' PAA score (currently <560 and without 4 or 5 on the PNA) determined by the English Department and once having passed a departmental exam. Total number of credits: 9.
        (1) It is recommended that the English Department establish a non-zero minimum (200 in the PAA) and students who do not achieve that score must pass a basic level entrance exam. A strengthening course could be created with the purpose of preparing students for this exam.
e. Any English course that is part of the curriculum of a language program may be counted toward the English requirement, if the above requirements are met.
f. The committee followed the current placement criteria established by the Department of English.

Discussion:

1. Current placement methods: The English Department has divided the first-year students into three tracks or levels. This information is available at www.uprm.edu/english. Currently, all UPRM students are required to take or have approved 12 credits in English.

    a. Advanced Track: Currently, students who took the PNA and receive a score of 4 or 5 have to take 6 credits in a second-year advanced level and would have had approved 6 credits of the first-year level with a 'P'. Under the proposed plan, these students would be required to take 3 credits in an advanced second year course and would have approved 6 credits at the advanced first-year level with a 'P'. (SA Cert 88-24)

b. Intermediate Track: Currently, students who received a score of 560-800 on the PAA and who either did not take or scored 3 or less on the PNA have to take 6 credits in the second-year intermediate level and 6 credits in the intermediate first year level. Under the proposed plan, these students would be required to take 3 credits in an intermediate second-year level and 6 credits in the intermediate first-year level.
c. Basic Track: Students who received a score of 559 or less on the PAA and who either did not take or scored 3 or less on the PNA have to take 6 credits in the second year level and 6 credits in the basic first-year level. Under the proposed plan, these students would be required to take 3 credits in a basic second-year level and 6 credits in the basic first-year level.

2. Given the wide diversity of abilities of students at the Basic level, the committee recommends that the English Department develop a diagnostic exam (similar to that developed by the department of Mathematical Sciences) for entering into the Basic track. In addition, The graph show that the scores for those students not receiving 4 or 5 on the PNA continue to descend. This supports the concept of the three tracks (Advanced, Intermediate, and Basic), but with the addition of the preparatory course or diagnostic exam to help those in the lower ranges of the Basic Track. Please see Point 5.1.2(d)(3)(iii) above for the explanation.

3. English is a second language for the Puerto Rican students and the PAA and the PNA both test for English as a second language.

TABLE 9: Summary 2019-23: Percentage of students in English 'Tracks' based upon the PAA or PNA Score for entering first year students

Faculty	Advanced Track	Intermediate Track	Basic Track	Total Students
ADEM	9.4%	45.9%	44.7%	785
ARCI-Artes	14.1%	47.7%	38.2%	841
ARCI-Ciencias	29.5%	52.4%	17.9%	1890
CIAG	13.1%	50.5%	36.4%	932
INGE	27.9%	51.4%	21.3%	3267

4. Table 9 shows broad diversity of the UPRM first-year students' abilities and preparation in the English Language. However, a majority of the students are placed in the Intermediate and Advanced tracks.

5. In Table 9 implies that a majority of the students scored in the mid-ranges of the PAA, with very few scoring in either of the extremes with a majority of the students placing directly into the intermediate level. It is important to note that a score of 200 is equivalent to '0' and that this exam does not measure English as a first language, but as a second language. Consequently, with the exception of the students in the advanced track (according to the English department),

these scores should not be considered as equivalent to those of students in the United States. Please refer to Section 3 for a summary of placement test results.

6. Table 9 shows the following distribution of students in the respective tracks, based on the PAA and PNA scores for English, for the period 2019-2023:

   a. In ADEM, 44.7% of the students were in the Basic track and 55.3% were in the Intermediate and Advanced Tracks.
   b. In ARCI-Artes, 38.2% of the students were in the Basic track and 61.8% were in the Intermediate and Advanced tracks.
   c. In ARCI-Sciences, 17.9% of the students were in the Basic track and 82.1% were in the Intermediate and Advanced tracks.
   d. In CIAG, 36.4% of the students were in the Basic track and 63.6% were in the Intermediate and Advanced tracks.
   e. In INGE, 21.3% of the students were in the Basic track and 78.7% were in the Intermediate and Advanced Tracks.

6.1.3 Spanish Communication

(Originally CIEG Proposed requirements)

a. General Education Requirement: 9 total credits, including 3 credits in an advanced or second year course.
b. The general requirement considers the diversity in students' abilities and preparation in Spanish.
c. Levels and credits by level: The student's placement in his or her level will follow the current university placement methods according to SA Certification 88-24 (see above).
d. Levels and credits by level:
   i. Advanced level: 9 credits. Requires a score on the PNA of 4 or 5. The student will enter directly into the second-year course.
      (1) Total credits: three (3) second-year level credits and six (6) basic credits approved with a 'P' by the application of the SA Certification 88-24.
   ii. Basic level: 9 credits. Students who did not take the PNA or did not score 4 or 5 will need to complete 6 credits at the basic level and 3 credits in second-year courses, as per Departmental rules.
e. It is recommended that the Department of Hispanic Studies create a strengthening or co-requisite course for those students with scores below a threshold on the PAA (to be determined by the Department).
f. Any Spanish course that is part of the curriculum of a language program may be counted toward the Spanish requirement, if the requirements above are met.
g. There is a notable disparity between the colleges with the scientific and technological students demonstrating better command of the language.

h. The Committee has requested that the Hispanic Studies Department will evaluate the placement levels, and make a final recommendation of said placement levels to be presented to the Academic Senate, no later than the meeting in November 2024; if such is not accomplished, the Committee's recommendation reverts to a standard 6 credit requirement, with the exceptions being 3 crs for 'advanced placement' students.

Proposed Hispanic Studies Requirements (approved by Hispanic Studies Department 22 August 2024)

a. General Education Requirement: 9 total credits, including 3 credits in an advanced or second-year course.
b. The general requirement considers the diversity in students' abilities and preparation in Spanish.
c. Levels and credits by level: The student's placement in his or her level will follow the current university placement methods according to SA Certification 88-24 (see above).
d. Levels and credits by level:
   (a) 4 or 5 on the PNA or 650 or more on the PAA: (a) Three (3) crs. second-year course; (b) six (6) basic credits approved with a 'P' by the application of the SA Certification 88-24 or the Academic Senate passing this placement level.
   (b) 615-649 on the PAA, but not 4 or 5 on the PNA: (a) 3 crs, second-year course; (b) ESPA 3102 or ESPA 3131; (c) ESPA 3101 ore EPA 3102 approved with 'P'.
   (c) 614 or less on the PAA, but not 4 or 5 on the PNA: (a) 3 crs. Second-year course; (b) ESPA 3101-3102 or ESPA 3131-3132.

e. It is recommended that the Department of Hispanic Studies create a strengthening or co-requisite course for those students with scores below a threshold on the PAA (to be determined by the Department).
f. Any Spanish course that is part of the curriculum of a language program may be counted toward the Spanish requirement, if the requirements above are met.
g. From 2014-2017, a notable disparity between the colleges with the scientific and technological students demonstrating better command of the language. However, from the period 2020 to the present, this disparity has been dramatically reduced.

TABLE 10: Summary 2019-23: Current number of credits in Spanish based upon the PAA or PNA Score for entering first year students

		PAA <=800 or PNA <=3[1]			PNA 4 ó 5[2]			Total Students
		6 credits (A)	6 or 9 credits (B)	12 credits (C)	0 credits (D)	0 or 3 credits (E)	6 credits (F)	(GT)
ADEM	# EST		904			42		946
	% GT		95.6			4.4		
ARCI-A	# EST			917			71	988
	% GT			92.8			7.2	
ARCI-C	# EST			1845			381	2226
	% GT			82.9			17.1	
CIAG	# EST	1014			91			1105

	% GT	91.8			8.2			
INGE	# EST	**3359**			**624**			**3983**
	% GT	84.3			15.7			
1) Only those first-year students who took the PAA, but did not take the PNA or took the PNA but scored 3 or less 2) Only those first-year students who scored 4 or 5 on the PNA								

1. Table 10 above summarizes the scores and placement of students within the Spanish classes for the period of 2019-2023. This is the placement method currently in effect. For the colleges of Engineering, Agricultural Sciences and some programs in Business Administration, those students who score 4 or 5 on the PNA will have the 6 credits basic Spanish approved with a 'P' (SA Cert 88-24) and, because the current minimum Spanish requirements in Agricultural Sciences, Engineering and some programs in Business Administration is only 6 credits, these students are exempt from any further study in the Spanish language. In the case of the College of Arts and Sciences, which requires twelve (12) credits in Spanish, those students who score 4 or 5 on the PNA will have the 6 credits basic Spanish approved with a 'P' and will need to take 6 credits in an advanced level course. Some programs in Business Administration require 9 credits in the Spanish Language and students would then receive a 'P' for the 6 credits in Basic Spanish (SA Cert 88-24) and would need to take 3 credits at a second year level.

    a. For CIAG, which requires 6 credits in Spanish, 8.2% of the students were exempt from taking any Spanish classes, while 84.3% were required to take the 6 credit Spanish sequence.
    b. For INGE, which requires 6 credits in Spanish, 15.7% of the students were exempt from taking any Spanish classes, while 84.3% were required to take the 6 credit Spanish sequence.
    c. For ADEM, which requires 6 or 9 credits in Spanish, 4.4% of the students in ADEM were either exempt from taking any Spanish classes or were required to take 3 credits in Spanish. This is an approximation given that 1) the data that was used was divided by faculty and not by program and 2) only some programs in ADEM require 6 credits in Spanish while the other programs require 9 credits. 95.6% of the students in ADEM were required to take 9 credits in Spanish (except those in the Accounting program who were required to take 6 credits).
    d. For ARCI, which requires 12 credits in Spanish, 19.3% of the students in ARCI were exempt from 6 credits in basic Spanish. 80.7% were required to take 12 credits in Spanish.

2. In reaching its decision, the committee considered various factors. Although the committee recognizes the potential impact of increasing credits in some programs, in the end the College Board data that was studied clearly shows a trend of decreased student proficiency in the topic areas that correspond to the "Fundamental Competencies' in the proposed plan. Further, given that Spanish is the native language for Puerto Rico, the committee was emphatic that all students take at least one course in Spanish. For comparison, it is common in comparable institutions in the United States to require *at least* one course in English

communication independently of the advanced placement scores. This is because the native language is the filter for understanding all other areas.

3. The Committee received a counter-proposal from the Hispanic Studies Department calling for a tiered system that would culminate in the 3-cr second year standard, requiring up to 6 crs of basic courses as prerequisites, but with a tier for some students to enter at an intermediate level (based on placement test score) that would require only 3 crs of a basic level course to advance to the second year course. The Committee accepted the idea to recommend the common university-wide standard that all students would take 3 crs of a second year course (regardless of placement test scores). This would result in some students taking 3 additional credits than what are currently required (mostly in Engineering), with others taking 3 fewer credits (mostly Arts and Sciences). However, given that the Committee debated credit impacts, it is also part of the recommendation that the Hispanic Studies Department will evaluate the academic and credit impacts of the tiered system, and make a final recommendation to be presented to the Academic Senate no later than the meeting in November 2024; if such is not accomplished, the Committee's recommendation reverts to a standard 6 credit requirement, with the exceptions being only 3 crs for 'advanced placement' students.

4. Basic impact of proposed plan: According to the proposed structure, all UPRM students will have to take a minimum of three (3) credits in a Spanish Language course. There will be a minimal increase in the number of credits in Spanish for some colleges. The following details the changes by faculty and includes the effect of SA Certification 88-24 in the credit count for students in the advanced level Spanish classes.

    a. For CIAG, 8.2% of the students would take 3 advanced level credits instead of 0 advanced level credits in Spanish. 91.8% of the students would be taking 6 credits at the basic level and 3 credits at the advanced level. This is an increase of 3 credits for all students in CIAG.
    b. For ARCI-Artes, 7.2% of the students would take 3 advanced level credits and receive a 'P' for the 6 credits basic level. 92.8% students would be taking 6 credits at the basic level and 3 credits at the advanced level. This is a decrease of 3 credits for all students in Arts and Sciences.
    c. For ARCI-Ciencias, 17.1% of the students would take 3 advanced level credits and receive a 'P' for the 6 credits basic level. 82.9% of students would be taking 6 credits at the basic level and 3 credits at the advanced level. This is a decrease of 3 credits for all students in Arts and Sciences.
    d. For ADEM, approximately 4.4% of the students would take 3 at the advanced level and receive a 'P' for the 6 credits basic level. With the exception of the Accounting program, there is no change in the credit load for Spanish. There is an increase of 3 credits for those students in the Accounting program.
    e. For INGE, 15.7% of the students would take 3 advanced level credits and 84.3% would be taking 6 credits at the basic level and 3 credits at the advanced level. This is an increase of 3 credits for all students in INGE.

6.2 Broad Education

The Broad Education section responds to the three main parts of the General Education Philosophy. The proposed structure has the following areas: Scientific Thinking and Reasoning, Social, Cultural and Historical Dynamics and Creative and Integrated Expressions. This component was designed to be practical and based upon existing courses, but flexible enough to be able to respond to emergent issues and trends. Further, the committee recognizes the importance of maintaining a strong and balanced exposure to multiple and diverse areas. This exposure will foster the holistic and robust develop of critical thinking skills, as informed by diverse content areas and epistemological styles.

6.2.1 Scientific Thinking and Reasoning

For the purpose of General Education, the Natural Sciences consist of the fundamental disciplines of Physics, Chemistry, Life or Biological Sciences, and Earth Sciences or Geology. Other branches of the sciences will form part of a more ample list of courses. This area attends to those competencies that emphasize knowledge of the elements of the natural sciences as well as knowledge and application of the scientific method.

Every student should have adequate exposure to the ways of thinking and methods used in the natural sciences. This is essential to understand and navigate a world where science and technology touch virtually every aspect of the daily and professional life of the entire population. This aspect of General Education is not limited to obtaining basic knowledge about facts and findings of science. This component should include exposure to the scientific method and its fundamental elements, such as the requirement for reproducible evidence based on independent, unbiased observations, to accept a hypothesis.

> *"Starting in elementary schools our children must become acquainted with the physical sciences, not because physical science is the foundation for engineering, or for defense, or because we need science to strengthen our competitive industrial base, or even because the leading nations of the world teach far more science than we do. We need to introduce science to our children so as to help them link the laws of science to the life-giving, life-supporting properties of the plan, to help them link physical science to the survival of human beings on this earth."*

- John Karakash, Distinguished Professor and Dean Emeritus of the College of Engineering and Physical Sciences, Lehigh University

Proposed elements:

a) 6 credits total
b) A minimum of 3 credits of courses within the natural sciences, per the description of the category, must be selected. The remaining three (3) credits may be selected from a more ample course list, which may include offerings from each college.

c) Any natural sciences course that is part of a program's curriculum may be counted toward the Scientific Thinking and Reasoning requirement, if the requirements of the previous points are met.
d) The Committee invites the creation of additional courses for inclusion in the area of Scientific Thinking and Reasoning.

6.2.2 Culture, Society and the Individual

The study of culture and society helps us understand others through their languages, histories, and cultures while revealing how people have tried to make moral and intellectual sense of the world. They teach us to critically and logically approach subjective, complex and imperfect information and to weigh the evidence skeptically and to consider more than one side of each issue. The study of the humanities helps develop critical reading and writing skills and encourages us to think creatively.

Subjects in the Humanities and Social Sciences require students to analyze complex texts, artworks, historical events, and cultural phenomena. Through close reading, interpretation, and contextualization, students learn to identify underlying themes, biases, and contradictions, thus fostering analytical thinking skills. These areas also emphasize how to evaluate arguments, assess evidence, and construct persuasive arguments. Through the analysis of texts and the development of written arguments, students learn to articulate their ideas clearly and cogently, honing their ability to think critically and communicate effectively.

Proposed elements:

a) 6 total credits
b) 3 credits from a specific list.
c) 3 credits from a broad list which could include offerings from all colleges.
d) Examples of Areas: ADEM, ALEM, ARTE, CHIN, CIAG, FILO, FRAN, GRIE, HUMA, ITAL, LATI, LITE, MUSI, TEAT, ECON, PSIC, ANTR, CIPO, CISO, SOCI, TEAT

6.2.3 Global and Historical Perspectives

The category of Global and Historical Perspectives considers events, trends, and issues from a broad, worldwide viewpoint, and within the context of their historical development and evolution. The study of Global and Historical Perspectives fosters the examination of phenomena from a worldwide or international standpoint, considering how events, trends, or phenomena affect or are influenced by various parts of the world. It examines how past events have shaped the present and allows us to identify patterns, causes, and consequences over time, providing insights into continuity and change, through understanding contexts that are different from the students' own contexts.

Proposed elements:

a) 6 credits total
b) 3 credits from a specific list.
c) 3 credits from a broad list which could include offerings from all colleges.
d) Examples of Areas: ADEM, ALEM, ARTE, LIBRARY, CHIN, CIAG, FILO, FRAN, GRIE, HUMA, ITAL, INGE, LATI, LITE, MUSI, TEAT, ECON, PSIC, ANTR, CIPO, CISO, SOCI.

6.2.4 Creative and Integrated Expressions

Creative and integrated expressions refer to forms of communication, art or other manifestations that combines originality, imagination and cohesion. This area fosters examining the world, or on a more limited scale, a problem from different epistemological views and skill sets. These expressions can encompass a wide range of media, from visual arts and music to writing and design. By encouraging creative and integrated expressions, we promote diversity, innovation and connection between people, the world and their community.

1. 3 credits total
2. Attends to Major Goal 4 of the UPR System Strategic Plan 2024-28
3. Examples of included areas: ARTE, CINE, LITE, ESPA, INGL, INTD 3990, MUSI, TEAT, Interdisciplinary courses, Coops, Internados, Community Service (INTD), Band, Orchestra or Chorus.
4. The committee developed this zone because it recognized that this area aligns directly with the new UPR System Strategic Plan. Also, it provides experiences for the students that are outside of their disciplinary studies. It incorporates the artistic and the interdisciplinary to underscore the need to engage and examine the world from different perspectives. For this reason, it fosters the development of critical and analytical thinking skills of the students.

Recomendaciones

El Comité Institucional de Educación General respetuosamente solicita al Senado Académico que:

1. Se apruebe la sección de **Razonamiento Cuantitativo y Lógi**co, como especificado en la Sección 6.1.1, como parte de la categoría de Competencias Fundamentales del componente de Educación General del Recinto.

2. Se apruebe la sección de **Inglés**, como especificado en la Sección 6.1.2, como parte de la categoría de Competencias Fundamentales del componente de Educación General del Recinto.

3. Se apruebe la sección de **Español**, como especificado en la Sección 6.1.3, como parte de la categoría de Competencias Fundamentales del componente de Educación General del Recinto.

4. Se apruebe la sección de **Pensamiento y Razonamiento Científico**, como especificado en la Sección 6.2.1, como parte de la categoría de Educación Amplia del componente de Educación General del Recinto. b

5. Se apruebe la sección de **Cultura, Sociedad y el Individuo**, como especificado en la Sección 6.2.2, como parte de la categoría de Educación Amplia del componente de Educación General del Recinto.

6. Se apruebe la sección de **Perspectivas Globales e Históricas**, como especificado en la Sección 6.2.3, como parte de la categoría de Educación Amplia del componente de Educación General del Recinto.

7. Se apruebe la sección de **Expresiones Creativas e Integradas**, como especificado en la Sección 6.2.4, como parte de la categoría de Educación Amplia del componente de Educación General del Recinto.

El Comité Institucional de Educación General respetuosamente solicita al Senado Académico que:

1. Se apruebe la estructura completa del Componente de Educación General del Recinto Universitario de Mayagüez.

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Apendices

Appendix A: History of the Institutional General Education Committee

During the past decade, there have been several academic senate certifications and administrative guidelines governing the structure or works of the institutional committee on general education (CIEG).

Academic senate Certifications 12-55, 16-88, 19-67 and 19-68 (appendix e) established the organization and reorganization of the composition of the CIEG with Certification 16-88 being basis for the administrative restructurings of 2016 and 2018. Certifications 10-14 of 2010 [*the Philosophy of General Education]*, 14-50 of 2014 [supporting the 'mission and goals' of CIEG in order to revise the general education component], 18-25 of 2018 [the establishment of the new general education student learning outcomes), 19-65 (table the general education plan of 2019 due to its inadequacy] and 19-69 of 2019 [require a work plan and incorporate the concerns expressed in the senate meeting of 3 September 2019 into the workplan] (appendix e) were issued in response to the results of previous general education institutional committees. The organization of the current CIEG is established by Certifications 19-68 and 19-70 (appendix e) in which they stipulate that each representative must be elected by their faculty or constituents prior to the first meeting and that the composition of the CIEG will be as follows : 3 representatives from the faculty of arts and sciences, 2 representatives from the faculty of business administration, 2 representatives from the faculty of agricultural sciences, 2 representatives from the faculty of engineering, 1 representative from the general library and 2 student representatives. In addition, each faculty will have to elect 1 alternate representative.

In November 2001, the Middle States Commission on Higher Education (MSCHE) periodic review of UPRM indicated that the institution needed to develop an institutional assessment plan for student learning, although without explicitly mentioning general education. For this reason, the university adopted the institutional learning outcomes (cert. 03-43), which appeared for the first time in the 2004-05 undergraduate catalog (p. 35). However, there was no explicit reference to the general education component of the undergraduate programs.

In response to the 2005 self-study, MSCHE recognized that the undergraduate programs included courses which could be classified as "general education" (get document and page), but that there was no common or institutional general education definition, nor was there a corresponding evaluation plan for the general education component. On October 11, 2006, a working group was appointed that led to the UPRM general educational evaluation plan, approved by the then OMCA in February 2007. However, this plan was not approved by the Academic Senate nor was it implemented. To date, the committee maintains that a comprehensive evaluation of the general education offering has not been carried out in the rum, under any of the various previous or current definitions.

In response to the MSCHE findings, a series of three meetings were organized in 2006, 2007 and 2008, with the purpose of generating a broad university conversation about general education.

From these meetings emerged the philosophy of general education (cert. SA 10-14). The Academic Senate approved the Philosophy (cert. 10-14) in April of 2010.

The UPRM Academic Senate established an institutional general education committee (cert. SA 12-55), with elected and appointed representatives in order to define a work plan and goals that would attend to the general education component. In September 2014, the senate approved the mission and objectives of the CIEG (cert. 14-50), entrusting the committee with various duties and powers, among them those of reviewing the institutional learning outcomes (*asegurarnos de que se revisen los "student learning outcomes" actuales a la luz de la filosofía de la educación general*), in relation to the philosophy of general education, as well as studying and recommending major revisions to the general education component {*analizar la necesidad de una revisión mayor de la educación general en el Recinto Universitario de Mayaguez*.).

In October of 2016, CIEG presented a draft proposal for updated student learning outcomes (in response to cert. 14-50); to the Academic Senate committee. These student learning outcomes were approved as general education learning outcomes in 2018 (cert. 18-25). In addition, CIEG was reorganized at this time in order to replace the elected representatives with representatives appointed by the faculty deans (cert. 16-88).

The committee formed by cert. 16-88 was convened in August 2017. At that time, there was no communication from the administration or the Academic Senate to request the committee to respond to new institutional administrative imperatives. However, immediately following the reopening of campus following hurricane maria, the administration (not the Academic Senate) directed the committee to work in concert with the unapproved institutional review plan. To this end, the committee presented a report on December 11, 2017, but said report was not sent or considered by the Academic Senate.

During the first months of the 2018/19 academic year, the committee continued to develop a preliminary plan to organize a general education offer around the grouping according to the SLOs and the drafting of guidelines on how the plan could be met. The committee was currently finalizing a report for the Academic Senate that included the basic structure, the number of component credits, and the number of shared credits. However, this work stopped in September 2018 when the administration reorganized the committee under the cert. 16-88. The new committee, after discarding the basic structure under development, took a new approach for the remainder of the 2018-19 year and presented a transition plan to the Academic Senate in may 2019. Some of the concerns about this plan included: 1) it was a "transition plan" for an indefinite period, 2) a timeline for the creation of the permanent component was not presented and 3) it was inadequately supported with evidence. The Academic Senate did not approve this transition plan (cert. SA 19-65), and, as a result, dissolved the committee (cert. SA 19-67) and reconstituted the committee by election (cert. SA 19-70) to create a new committee with instructions to submit a workplan timeline to the Academic Senate.

The new committee began meeting in August of 2020 and has been meeting on a regular basis in order to revise the general education component.

Appendix B: Definitions of General Education

2. Agricultural and Biosystems Engineering: The program of Agricultural and Environmental Systems is administered by the Agricultural and Biosystems Engineering Department. It focuses on practical application of engineering principles and technology to the problems encountered in agriculture and natural resources. In pursuing these objectives, the following areas of study are included in the program: farm power and machinery, soils and water management, farm buildings and electrotechnology, irrigation and drainage and agricultural products processing. Also, it integrates agricultural economy knowledge and skills applied to the agricultural and food industries. (p. 82)
3. Agronomy: Demonstrate knowledge of basic and applied concepts and techniques for sustainable use of inputs and resources for commercial production of agronomical crops.
4. Civil Engineering: The General Education requirements for the Department are contained within those for UPRM as follows: 6 Spanish, 12 English, 3 Ethics, 6 SOHU (from a list of over 400 courses), 17 Science, 14 Mathematics.
5. Computer Science Engineering: General Education Component in the CSE Program-The CSE program provides a well-rounded education that, in addition to core courses in engineering and in computer science, includes courses in languages and communication, social sciences, arts, and humanities. Students also acquire and enhance their teamwork and collaboration skills throughout the team projects that are required in several core courses and especially, in the capstone design experience course (CIIC 4151).
6. Computer Engineering: The general education component in the Computer Engineering program is designed to support the development of a professional that is aware not only of the technical professional needs, but also the general needs of society. In addition to achieve expertise in the discipline, the computer engineering professional needs to communicate adequately, understand the importance of cultural, ethical, and social issues, and value the need to constantly upgrade knowledge.
7. Crop Protection: Demonstrate knowledge of basic and applied concepts and techniques related to the diagnosis of the causal agent of plant diseases and pests, as well as interaction within the environment. Implement sustainable and integrated methods for disease control, pest management and crop disorders.
8. Electrical Engineering: The general education component in the Electrical Engineering program is designed to support the development of a professional that is aware not only of the technical professional needs, but also the general needs of society. In addition to achieve expertise in the discipline, the electrical engineering professional needs to communicate adequately, understand the importance of cultural, ethical, and social issues, and value the need to constantly upgrade knowledge.
9. English: The inclusion of English courses as part of General Education in every degree program reflects UPRM deep conviction that successful, satisfying lives require a wide range of skills and knowledge. These skills include the ability to communicate effectively. General Education, in essence, augments and rounds out the specialized education students receive in their majors and aims to cultivate a knowledgeable, informed, literate human being. (p. 144).
10. General Program in Agricultural Sciences: A series of courses and formal experiences to broaden the student's intellectual perspective beyond the focus of a major and to set them on the path

to becoming educated members of society. To foster appreciation for the many perspectives and the diverse voices that may be heard in a democratic society.

It encourages students to consider the relationships between disciplines, providing fundamental knowledge for advanced courses.

11. Geology: Each student will develop critical thinking, enthusiasm, initiative and the necessary skills to become lifelong students of Earth Sciences. Emphasis is placed on learning basic concepts and techniques through research, in an environment that promotes the development of professionals with social, cultural and humanistic sensibility as well as profound ethical values. In this way, the department will contribute to the enrichment of science and society through the creation and dissemination of new knowledge through scientific research.
12. Horticulture: Demonstrate knowledge of basic and applied concepts and techniques for sustainable use of inputs and resources for commercial production of horticultural crops.
13. Industrial Engineering: The general education student learning outcomes for our department are aligned with several student outcomes (please refer to ABET (1)-(7)). Our students should demonstrate ability in the following areas: written communication (3), oral communication (3), quantitative reasoning (1), scientific reasoning (1), information literacy (4), technological competence (2, 6), and critical analysis and reasoning (2, 4).
14. Kinesiology: General Education for Physical Education is defined as the courses that provide a solid academic preparation and enable students to improve their communication skills, humanistic and scientific knowledge applied to Kinesiology professions with a sense of responsibility as highly educated members of society and as good citizens.
15. Software Engineering: General Education Component in the SWE Program-The SWE program provides a well-rounded education that, in addition to core courses in engineering and in computer science, includes courses in languages and communication, social sciences, arts, and humanities. Students also acquire and enhance their teamwork and collaboration skills throughout the team projects that are required in several core courses and especially, in the capstone design experience course (INSO 4151).
16. Soils: Explain the basic interaction among soil, crops and the environment.
17. Surveying and Topology: The General Education requirements for the Department are contained within those for UPRM as follows: 6 Spanish, 12 English, 3 Ethics, 6 SOHU (from a list of over 400 courses), 17 Science, 14 Mathematics.

Appendix C: Program requirements after 2021.

Table C1. Business Administration-Current Requirements									
	Total in Catalogue	ESPA	INGL	MATE	NAT SCI	HUMA	CISO[3]	Free/Prof Electives[1]	SOHU[2]
Accounting	41	6	12	6	3	3	15	21	
Computer Systems	50	6	12	6	3	3	15	12	
Information Systems	50	6	12	6	3	3	12	12	3
Finance	50	6	12	6	3	3	12	12	3
Operations Management	50	9	12	6	3	3	12	12	3
Marketing	50	9	12	6	3	3	12	12	3
Human Resources	50	9	12	6	3	3	12	12	3
Office Admin	44	6	12	3	3	6	6	12	3
1. In the program specific details, these electives are listed as 'general education'.									
2. This category is for courses in Social Sciences or Humanities.									
3. CISO includes courses in Economy as well as Social Sciences. These seem to be more program requirements instead of General Education.									

1. The General Education requirements in Business Administration are confusing.
2. Many programs list in the actual programs the free electives as general education.
3. There are three different General Education details Stated in the Business Administration offerings; 1) the faculty minimums (pp. 218), 2) the Business Administration program summaries (p. 218-222) and in the Business Administration (pp. 227-236) detailed program descriptions. There is no consistency between the three statements of requirements.
4. The SOHU requirement is not as broad as that in the College of Engineering. This requirement stipulates 3 credits in Humanities or Social Sciences.

Table C2. Agricultural Sciences-Current Requirements							
	Total in Catalogue	INGL	ESPA	HUMA	CISO	MATE	NAT SCI
Agricultural Sciences	72	12	6	6	6	6	34
Agricultural Economics	67	12	6	6	6	15	20
Agribusiness	64	12	6	6	6	12	20
Agricultural Education	61	12	6	6	9	6	20
Agricultural Extension	60	12	6	6	9	6	20
Agricultural/ Biosystems Engineering	56	12	6	3	6*	9	40
Agroenvironmental Sciences	32	12	6	6	6	Science and Math are part of the major (shared)	
Animal Science	75	12	6	6	6	6	37

1. The current individual program General Education requirements, excluding the Science area, attend to all of the General Education areas in a balanced manner.
2. With the exception of Agroenvironmental Sciences, the reported number of credits for the General Education Science area is too large. Many of these total include all science courses as General Education. However, many of these courses are program requirements and therefore should not all count towards the General Education requirement. Traditionally, 6 to 9 of credits is assigned to the Science area.
3. Agroenvironmental Sciences includes in the 2023/24 catalogue the following statement: *"MATE, BIOL, QUIM, FISI courses are fundamental for the core courses in agricultural sciences and thus are not considered general education."* This statement and its implementation reflects the concept of shared credits between the major concentration and the General Education component.
4. There is a slight imbalance in the program of Agricultural and Biosystems Engineering between the areas dealing with cultural diversity/history and the other areas. The definition for the Humanities and Social Sciences is confusing.

Table C3. Engineering-Current Requirements										
	Catalogue Total	INGL	ESPA	HUMA	CISO	MATE	NAT SCI	ETHICS	SOHU	FREE ELECTIVES
Chemical[2]	N/M[1]	12	6	0	0	30		3	6	
Civil	60	12	6	0	0	14	17	3	6	
Topography	62	12	6	0	0	16	17	3	6	
Computer Science	44	12	6	0	0	?	?		12	12
Software	42	12	6	0	0	?	?		12	12
Electrical	45	12	6	0	0	?	?		15	12

Table C3. Engineering-Current Requirements										
	Catalogue Total	INGL	ESPA	HUMA	CISO	MATE	NAT SCI	ETHICS	SOHU	FREE ELECTIVES
Computer	45	12	6	0	0	?	?		15	12
Industrial	?	12	6	0	0	5?	?	3	6	
Mechanical[2]	N/M	12	6	0	0	?	?	32	6	
1. N/M-Total Not Mentioned in the Catalogue										
2. Breakdown and totals for General Education not included in the Academic Catalogue.										

1. Four programs (Computer Science, Software, Electrical and Computer Engineering include the 12 *systemic* free electives as part of General Education. These are systemic requirements, not General Education. The students are free to choose any course to comply with this requirement.
2. According to the Industrial Engineering definition of General Education, the General Education requirements are determined by compliance only with ABET [p. 277]and 2) and does not include cultural and global awareness or diversity nor diverse perspectives.
3. It is difficult to determine the General Education component in the Mechanical Engineering program. The information in the Academic Catalogue does not include General Education, but does list the 6 credits from the SOHO list and 3 credits in Ethics as program requirements. The General Education requirements for Math, Science and Communication are not listed, but are included in the program.

Table C4. ARCI: Current Requirements							
	Catalogue Total	INGL	ESPA	MATE	HUMA	CISO	NAT SCI
ARCI Minimums	54	12	12	6	6	6	12
BioTech[1,3]	50	12	12	6	6	6	6
Biology[1]	82	12	12	12	6	6	32
Chemistry[1,3]	44	12	12	6	6	6	0
Economics	54	12	12	6	6	6	12
English	54	12	12	6	6	6	12
Geology[1,3]	50	12	12	6	6	6	6
Hispanic Studies	54	12	12	6	6	6	12
Humanities	54	12	12	6	6	6	12
Kinesiology	54	12	12	6	6	6	12
Nursing[1,3]	50	12	12	6	6	6	6
Physics[2]	49	12	12	6	6	6	6
Psychology[4]	56 or 58	12	12	6	6	6	12
Social Sciences[4]	56 or 58	12	12	6	6	6	12

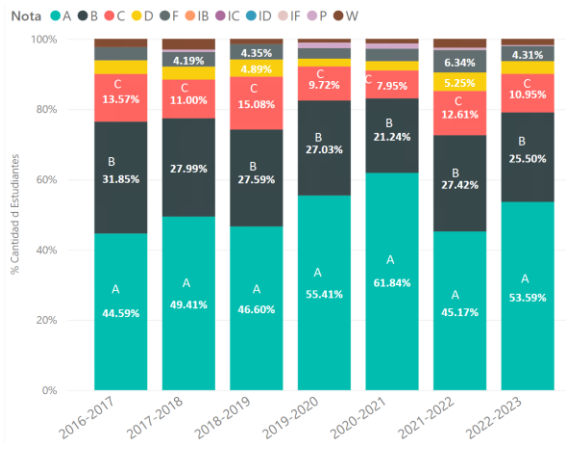
[1]Biology, Chemistry, Geology, Nursing and BioTech all include the Kinesiology requirement in the GE total in the catalogue.
[2] It is not clear how the Department of Physics arrived at 49 as the total number of General Education Credits.
[3] These distributions are examples of 'shared credits'. It is possible that because the program includes a heavy Science requirement, this requirement has been reduced in the GE total.
[4] It is not clear how Psychology and Social Sciences deviate from the ARCI requirements.
Biology is including all non-biology courses in the count.

Appendix D: Grade Performance in Fundamental General Education Courses

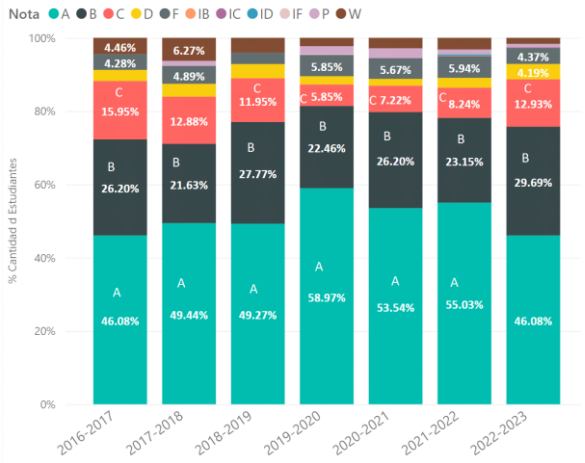
As part of its study, the Committee examined grade distributions in the fundamental courses in Spanish, English, and Mathematics. While grade distributions by themselves must not be considered as a substitute for a robust assessment plan, they do form a part of any such assessment. In particular, they can be used to raise questions regarding the level of achievement attained, as well as the degree to which students are sufficiently being challenged or placed. However, these data will form a part of a complete assessment plan for General Education. Since 2005, MSCHE has required of UPRM the establishment of a General Education Assessment Plan. Figure 12 provides grade distributions for primary fundamental courses in Spanish, English, and Mathematics, as provided by OPIMI.

Figure 12. Grade Distributions in Fundamental Skills Courses, 2016/17 – 2022/23.

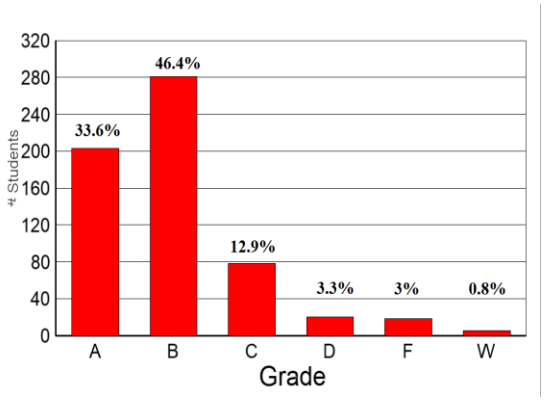
Grade Distribution-First Year ESPA Courses, 2016/17 – 2022/23.



Grade Distribution-Second Year ESPA Courses, 2016/17 – 2022/23.



Grade Distribution-Literacidad Académica 3131 (First time offered).

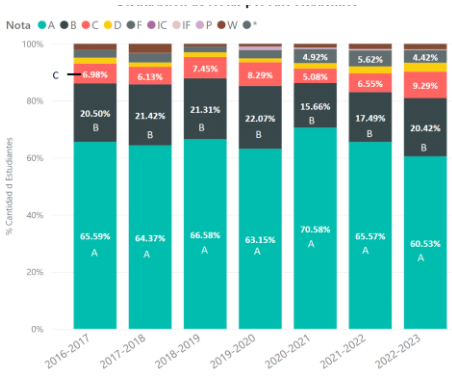


TBA Acadmic Literacy II

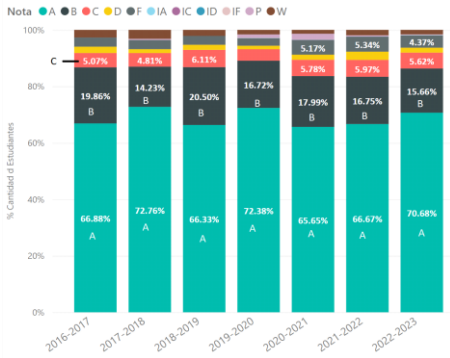
This course was offered for the first time in the second semester of the 2023/24 academic year. For that reason the data is not available.

Figure 12. Grade Distributions in Fundamental Skills Courses, 2016/17 – 2022/23.

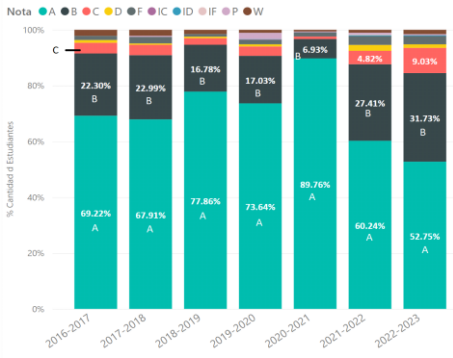
Grade Distribution - Basic English Track, 2016/17 – 2022/23.



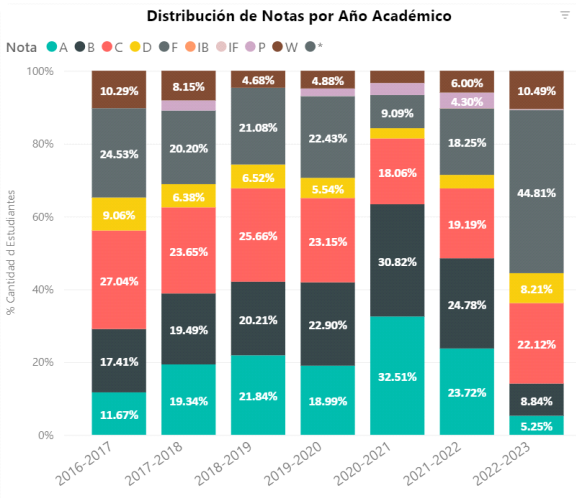
Grade Distribution - Intermediate English Track, 2016/17 – 2022/23.



Grade Distribution - Advanced English Track, 2016/17 – 2022/23.



Grade distribution - MATE 3171: *Precálculo* I, 2016/17 – 2022/23.



Grade distribution - MATE 3172: *Precálculo* II, 2016/17 – 2022/23.

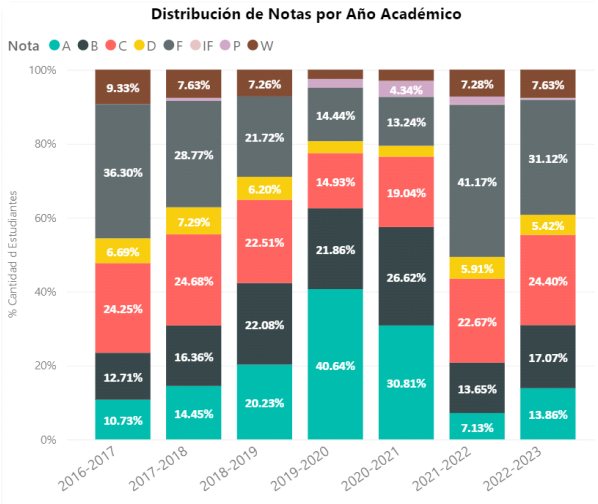
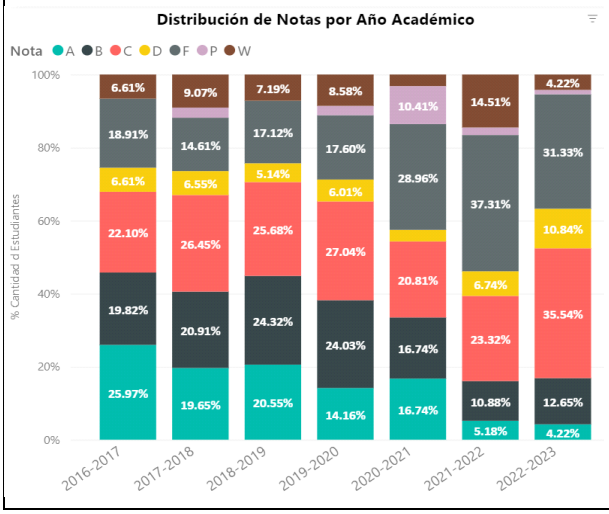
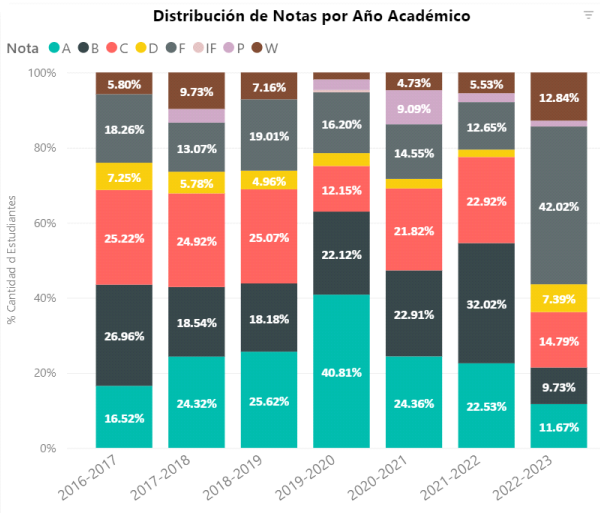


Figure 12. Grade Distributions in Fundamental Skills Courses, 2016/17 – 2022/23.

Grade distribution for MATE 3086: *Razonamiento Matemático* for the period 2016/17-2022/23.



Grade distribution for ESMA 3115: for the period 2016/17-2022/23.



Appendix E: Presentation to the Academic Community: Course Evaluation for the New Component

Appendix F: Certifications