

**University of Puerto Rico-Mayaguez
College of Artes and Sciences
Department of Economics**

**Proposal for the Establishment of a Master Program in Sustainable Economic Development in the
Department of Economics of the College of Arts and Sciences at the University of Puerto Rico-
Mayaguez**

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Approved by the Department of Economics Curriculum Committee on
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Approved by the Faculty of the Department of Economics on
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Executive Summary

The proposed Master of Arts in Sustainable Economic Development, will be housed in the Department of Economics of the University of Puerto Rico–Mayagüez (UPRM). The degree is designed to train professionals capable of addressing the pressing economic, environmental, and governance challenges facing Puerto Rico and comparable developing economies. Graduates will be prepared to lead sustainable development initiatives in public institutions, private industry, non-governmental organizations, research centers, and international agencies, or continue doctoral studies in fields related to economic development, policy, and sustainability.

In regards to its alignment with Puerto Rico’s economic development plan, this program responds to clear academic and societal demand. Puerto Rico faces high poverty, economic stagnation, and a structural vulnerability to natural hazards. Despite this context, no graduate program on the island directly trains students in applied sustainable development from an interdisciplinary economic perspective. Existing UPR programs either emphasize “pure economics” (UPR-Río Piedras) or sector-specific agricultural applications (UPRM Agricultural Economics). The proposed program fills this critical gap by combining applied economics with environmental policy, disaster preparedness, political economy, writing for publication, and Puerto Rico’s contemporary economic challenges.

The curriculum’s distinguishing features include: a structured foundation of 21 core credits in economic development, political economy, data analysis, writing and publishing, Puerto Rico’s economy, and sustainable urban systems; 9 credits of recommended graduate-level electives, which may include economics; and 6 free electives outside of economics, allowing customization across other disciplines. The program’s interdisciplinary design promotes flexibility while ensuring rigorous graduate training without the requirement of a thesis or capstone. With an initial admission cap of five students per year, graduates are projected to include both local students and students from the Puerto Rican diaspora seeking high-quality and affordable graduate education.

The program is classified under CIP 45.0604 – Development Economics and International Development, as defined by the National Center for Education Statistics (NCES). This code is distinct from the CIP code of other graduate programs related to economics within the UPR system and corresponds to the proposed program’s emphasis on economic development, policy, and interdisciplinary applications. proposed degree.

The following table summarizes the program’s 36-credit curricular sequence:

Core Courses (21 credits; 58.3%)	ECON 5025 Foundations of Sustainable Economic Development ECON 6185 Economic Analysis for Wellbeing and Sustainability ECON 6045 Data Analysis in Economics ECON 6075 Political Economy and Sustainable Economic Development ECON 6186 The Economy of Puerto Rico in the 21st Century ECON 6XXX Sustainable Urban Systems ECON 6250 Writing and Publishing in Economics
Recommended Electives (9 credits; 25%)	May include additional graduate courses in Economics and will be determined in coordination with the student's graduate committee.
Free Electives (6 credits; 16.7%)	May not include graduate courses in Economics and will be determined in coordination with the student's graduate committee.

The program requires minimal financial resources for launch. The Department of Economics already has sufficient faculty to offer the curriculum during the first three years. By year three, anticipated retirements justify the recruitment of one new faculty member, without added cost to the university, as salary differences between retiring full professors and incoming assistant professors result in payroll savings. By year six, an additional faculty hire is projected under the same cost-neutral conditions. Annual office supplies are projected at \$500, and new faculty hires would require one-time equipment investments of \$2,500 per faculty member. No additional support staff, classroom space, or infrastructure upgrades are required. The program is also expected to stimulate externally funded collaborative research, though revenues cannot be precisely projected due to variability in grant availability.

Approval Dates

	Fecha de Aprobación
Aprobación de VPAAI de Carta de Intención	16 de noviembre de 2023

	Fecha de Aprobación	Certificación
Departamento	2 de octubre de 2025	n.a.
Facultad		
Senado Académico		
Junta Administrativa		

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Introduction

A. Title and Degree Conferred

Master of Arts in Sustainable Economic Development (Maestría en Artes en Desarrollo Económico Sostenible)

B. Program Description

The proposed graduate program is the Master of Arts in Sustainable Economic Development, housed in the Department of Economics at the University of Puerto Rico–Mayagüez. The program falls under the taxonomy of the Classification of Instructional Programs (CIP) code 45.0604 – Development Economics and International Development, as defined by the National Center for Education Statistics (NCES)¹. The program is designed to train graduates capable of leading sustainable development initiatives that address the pressing economic, environmental, and social challenges of Puerto Rico and comparable contexts in developing nations. The graduates of this program will be equipped with advanced competencies in applied economics, quantitative and qualitative research methods, and policy analysis. They will be prepared for careers in public service, private enterprise, non-governmental organizations, research institutions, and international agencies, as well as for doctoral studies in related fields. The pertinence and necessity of the program stem from Puerto Rico's urgent need to foster economic diversification, resilience to natural hazards, and poverty reduction. Currently, no graduate program in Puerto Rico directly addresses development studies with an applied, interdisciplinary approach. This program fills that gap by combining economics with disaster-preparedness, governance, and social sciences, thereby responding to both academic demand and the socio-economic challenges of the island. Key curricular features include a balanced structure of 21 credits in core courses and 15 credits in electives, emphasizing flexibility, interdisciplinary integration, and hands-on learning. Core courses provide solid foundations in economic development, Puerto Rico's economy, policy analysis, data analysis, and urban systems. Electives allow students to tailor their training across economics, environmental sciences, planning, and related fields. The curriculum also includes advanced training in academic writing and publishing, preparing graduates to contribute to scholarly and policy debates. The program's development aims to consolidate the University of Puerto Rico–Mayagüez as a leader in development studies and applied economic research. With an initial admission cap of five students per year, it is projected to attract both UPR undergraduates seeking to continue graduate studies and members of the Puerto Rican diaspora seeking high-quality, affordable graduate education on the island. Over time, the program is expected to strengthen institutional research capacity, foster partnerships with public and private sectors, and position UPRM as a regional reference point in development studies.

C. Program Modality

¹ National Center for Education Statistics. (2020). Classification of Instructional Programs (CIP) 2020. U.S. Department of Education. <https://nces.ed.gov/ipeds/cipcode/>

Full-Time in Person

D. Expected Launch Date and Duration of the Program.

The program is expected to launch during the Fall Semester of Academic Year 2027-2028

E. Expected Time of Completion

The Master of Arts in Sustainable Economic Development is designed to be completed by full-time students in two academic years, following the prescribed curricular sequence. This duration is consistent with comparable master's programs within the University of Puerto Rico system and at peer institutions in the United States, ensuring both academic rigor and timely degree completion.

Students will have a maximum of five (5) years from the date of admission to complete all degree requirements. This time frame balances flexibility for students who may need to extend their studies with the academic requirement that courses remain current and relevant to the evolving field of sustainable economic development.

Academic progress will be evaluated each semester through the Office of Graduate Studies in coordination with the Department of Economics Graduate Committee. Students must maintain satisfactory academic progress as defined by UPRM policies, which is also a condition for continued eligibility for financial aid and assistantships.

To promote timely completion, the program will provide close academic advising, clear curricular guidelines, and regular monitoring of student progress. The Graduate Committee and Program Coordinator will ensure that students are encouraged to follow the full-time sequence, particularly during the first year when the core courses are offered.

Students who, due to work, family, or personal circumstances, are unable to study full-time may pursue the program on a part-time basis, provided they comply with the maximum five-year time limit. This option acknowledges the realities of graduate students in Puerto Rico while maintaining the program's standards and commitment to academic excellence.

Accreditation and Professional Licences

A. Professional Accreditation

Graduate programs in Economics, including those with a concentration in Development Economics and related fields, are not subject to specialized professional accreditation in Puerto Rico or the United States. There is no recognized accrediting body that evaluates or certifies master's programs in Economics, nor are there professional licensure requirements for economists in Puerto Rico or the United States. Accordingly, the proposed Master of Arts in Sustainable Economic Development is not eligible, nor required, to seek professional accreditation. Given this disciplinary context, there is no

impact on graduates' eligibility to obtain any professional licensure or certification, as none is legally mandated for the practice of economics in Puerto Rico or in the United States.

B. Professional Practice Requirements

There are no legal requirements for licensing, certification, or board examinations in order to practice as an economist in Puerto Rico or in the United States. Therefore, completion of the proposed Master's program will fully qualify graduates to pursue employment opportunities in the public, private, or non-governmental sectors, as well as doctoral studies, without the need for additional professional authorizations.

Justification and Pertinence

The proposed Master of Arts in Sustainable Economic Development responds to a demonstrated academic and societal need for graduate-level training in applied development economics and sustainability in Puerto Rico. Its pertinence is rooted in both the internal context of the University of Puerto Rico and the external challenges and opportunities faced by Puerto Rican society and comparable developing economies.

The Department of Economics at the University of Puerto Rico–Mayagüez (UPRM) undertook a planning process that included the review of institutional strategic plans, evaluation of current graduate offerings within the UPR system, and assessment of local and global labor market needs. Consultations with students, faculty, and professional associations confirmed the demand for an applied graduate program that integrates economics, governance, and resilience in the face of natural hazards. The findings were consistent with institutional priorities to diversify academic offerings, strengthen research capacity, and align curricula with Puerto Rico's development needs.

Within UPRM, the program supports the mission of the College of Arts and Sciences to provide relevant, high-quality, and socially responsive education.² At the system level, it aligns with the University of Puerto Rico's strategic plan to expand graduate programs in areas of high social impact, particularly those that contribute to innovation, community engagement, and Puerto Rico's economic transformation.

Puerto Rico faces persistent structural challenges: economic stagnation, high poverty and inequality, fiscal instability, and vulnerability to natural hazards and climate change. According to the Puerto Rico Planning Board (2024)³ and the U.S. Census Bureau (2024)⁴, the island's labor force participation remains below 45%, with a poverty rate of approximately 40%. The proposed program is designed to produce graduates who can lead initiatives to tackle these issues and foster long-term development.

Currently, the University of Puerto Rico offers a Master's in Economics at the Río Piedras campus, with a strong emphasis on theoretical foundations, and a Master's in Agricultural Economics at the Mayagüez campus, limited to the agricultural sector. Neither program addresses development studies in a

² Decanato de Artes y Ciencias, Universidad de Puerto Rico, Recinto Universitario de Mayagüez. (2025). Visión y misión [Web page]. <https://www.uprm.edu/arci/mision-y-vision/>

³Economic and Social Planning Program (2024). Economic Report to the Governor. Puerto Rico Planning Board

⁴ US Census Bureau (2024). Puerto Rico Community Survey.

comprehensive, interdisciplinary, and applied manner. Private universities in Puerto Rico do not offer graduate programs in economics. Thus, the proposed program fills a critical gap by offering a graduate degree that combines applied economics with resilience in the face of natural hazards, governance, and development studies, tailored to Puerto Rico's context.

A master's degree is the appropriate academic level for this initiative because it prepares professionals with advanced, practice-oriented competencies beyond the scope of post-baccalaureate certificates, while also serving as a pathway to doctoral studies in economics, public policy, or development studies. The program's design balances theoretical rigor with practical application, ensuring that graduates are competitive in both academic and professional markets.

As a feasibility study, the Economics Department has conducted exit surveys of our own graduates, which have shown that approximately 75% of economics undergraduates at UPRM continue to graduate studies, with many expressing strong interest in a program that would allow them to remain at UPRM. The program is expected to attract 5 students annually, including students from the Puerto Rican diaspora seeking high-quality, affordable graduate education. Local agencies, including but not limited to the Financial Oversight and Management Board, the Legislative Assembly Budget Office, and the Department of Economic Development and Commerce have voiced a need for professionals trained in economic analysis, policy development, and disaster preparedness, particularly in government, non-profit organizations, consulting, and international agencies.⁵ The program's interdisciplinary focus equips graduates for diverse career pathways in Puerto Rico and beyond.

The program's focus on development studies positions UPRM to participate in global academic networks and research collaborations, particularly in Latin America and the Caribbean. Graduates will be well-prepared to continue doctoral studies at leading institutions in economics, public policy, environmental studies, and development. Over time, the program will expand UPRM's capacity to serve as a regional hub for research and training in development studies.

In short, the justification and pertinence of the proposed master's program are supported by institutional priorities, student demand, labor market trends, and Puerto Rico's pressing need for development professionals. By filling a critical academic gap and responding to social and economic challenges, the program will strengthen UPRM's role as a leader in applied economic research and education for development studies.

Relation to UPR and Unit Mission and Strategic Plan

A. Alignment with the Mission and Strategic Plan of the University of Puerto Rico and Mayagüez Campus

The UPR is entrusted with serving the people of Puerto Rico in accordance with the ideals of a democratic society, through the advancement of knowledge, the cultivation of ethical and aesthetic values, and the comprehensive formation of students.⁶ This new program contributes directly to those

⁵ Redacción de Sin Comillas. (2025, febrero 4). El DDEC busca el asesoramiento de los economistas. Sin Comillas. <https://sincomillas.com/crisis-de-los-aranceles-el-ddec-busca-el-asesoramiento-de-los-economistas/>

⁶ Universidad de Puerto Rico. (2025). *Misión y visión* [Web page]. <https://www.upr.edu/ac/mision-y-vision-upr/>

mission objectives by transmitting and generating applied knowledge in economics and sustainability, cultivating socially responsible professionals, promoting interdisciplinary solutions to Puerto Rico's economic challenges, and engaging students and faculty in service to society.

UPR Mission Component	Corresponding Program Features	Expected Impact
Transmit and increase knowledge in sciences and arts, placing it at the service of the community	Core curriculum in applied economics, data analysis, and development policy; student research linked to Puerto Rico's economic and social needs.	Expands the island's knowledge base in sustainable development; directly applies research to community challenges.
Contribute to the development and enjoyment of ethical and aesthetic values of culture	Integration of sustainability, equity, and ethics into coursework and learning outcomes; emphasis on culturally grounded approaches to economic policy.	Promotes socially responsible graduates who value equity and cultural identity in decision-making.
Cultivate love of knowledge as a path to freedom, through the search and discussion of truth in an environment of respectful dialogue	Academic training in critical analysis, interdisciplinary research, and policy debates; courses in academic writing and publishing.	Encourages open inquiry, respectful debate, and intellectual independence among graduate students.
Conserve, enrich, and disseminate Puerto Rican cultural values, strengthening unity in addressing common problems democratically	Focus on Puerto Rico's economy and development challenges; community engagement through applied projects and policy analysis.	Positions UPRM as a leader in addressing Puerto Rico's socio-economic issues democratically and inclusively.
Ensure the integral formation of students	Balanced curriculum with theoretical, methodological, and applied components; opportunities for professional and academic development.	Prepares graduates holistically for leadership roles in public, private, and non-profit sectors, as well as further doctoral study.
Develop intellectual and cultural potential across all social sectors, particularly for those with limited economic resources	Affordable public graduate education accessible to diverse student populations, including first-generation and diaspora students.	Expands access to advanced education, promoting upward mobility and the use of talent in service of Puerto Rico.
Collaborate with other organizations in the study of Puerto Rico's problems and the search for effective solutions	Partnerships with government, NGOs, and international organizations built into program design; applied research projects addressing resilience, poverty, and economic diversification.	Strengthens UPR's role as a central actor in solving Puerto Rico's economic and social problems.

UPR Mission Component	Corresponding Program Features	Expected Impact
Remain linked to the values and interests of democratic communities	Emphasis on participatory governance, equity, and sustainability as central to program philosophy.	Reinforces UPR's democratic mission and its service to Puerto Rican society.

This section of the proposal demonstrates how the creation of the Master of Arts in Sustainable Economic Development directly responds to the priorities, critical issues, and strategic directions outlined in the University of Puerto Rico Strategic Plan 2023–2028: A Cartography of Creative and Innovative Actions.⁷ The proposal aligns with multiple strategic issues and goals of the 2023–2028 Strategic Plan, particularly:

Strategic Plan Goal (UPR 2023–2028)	Corresponding Program Features	Expected Impact
Strategic Issue 1, Goal 1: Distinguish the academic offering through high-quality, relevant, and competitive programs (Objectives 1.1, 1.2)	Creation of a new graduate program in Sustainable Economic Development with 21 core credits and 15 electives; flexible, interdisciplinary curriculum integrating economics, governance, sustainability, and disaster resilience.	Expands UPRM's graduate portfolio in areas of high demand; attracts new student populations, including diaspora students; positions UPR as a leader in applied, socially relevant academic innovation.
Strategic Issue 1, Goal 3: Promote lifelong learning and faculty diversity through training and development	Faculty engaged in interdisciplinary teaching and research; opportunities for students to engage in advanced research and applied projects under faculty mentorship.	Strengthens UPRM's teaching and research excellence; supports continuous faculty development in sustainability and applied economics.
Strategic Issue 2, Goal 6: Develop strategic alliances that enhance services for external communities and fiscal sustainability	Program designed with emphasis on community engagement, partnerships with public and private sectors, and applied projects in Puerto Rico's economy.	Builds bridges with government, NGOs, and industry; generates collaborative projects and external funding opportunities; contributes to the fiscal sustainability of UPR.
Strategic Issue 3, Goal 7: Facilitate collaboration among researchers within and outside UPR to create networks and consortia	Research components integrated into core courses and electives; students trained in quantitative and qualitative research methods relevant to sustainability and development.	Fosters interdisciplinary and international research collaborations; strengthens UPR's research profile in the Global South.
Strategic Issue 3, Goal 9: Increase student participation in research and creative work as part	Curriculum includes hands-on learning, data analysis projects, policy reports, and academic writing/publishing course.	Enhances student research capacity; promotes dissemination of policy-relevant and scholarly knowledge;

⁷ Universidad de Puerto Rico. (2023). Plan estratégico UPR 2023-2028 [Web page]. Retrieved from <https://www.upr.edu/ac/plan-estrategico-upr-2023-2028/>

Strategic Plan Goal (UPR 2023–2028)	Corresponding Program Features	Expected Impact
of the university experience		improves student employability and preparation for doctoral studies.
Strategic Issue 4, Goal 10: Foster educational settings that promote ethics, diversity, equity, and inclusion	Program explicitly integrates values of equity, sustainability, and democratic participation into student learning outcomes and curriculum.	Produces graduates capable of ethical, culturally sensitive policymaking; reinforces UPR’s commitment to DEI and social responsibility.

The Master of Arts in Sustainable Economic Development also aligns directly with the mission of the University of Puerto Rico–Mayagüez (UPRM), which emphasizes excellence in service, the formation of critical and professionally prepared citizens, the advancement of creative work and research, and the cultivation of democratic values that respect diversity.⁸

The program contributes to this mission by preparing graduate students with the analytical, methodological, and ethical tools needed to address Puerto Rico’s economic, social, and environmental challenges. It integrates rigorous academic training with applied research, service, and community engagement, ensuring that graduates can generate and disseminate knowledge while embodying the values of equity, sustainability, and democratic participation.

UPRM Mission Component	Corresponding Program Features	Expected Impact
Provide excellent service to Puerto Rico and the world by forming educated, cultured, critically thinking, and professionally prepared citizens	Graduate curriculum in applied economics, sustainability, governance, and research methods; focus on local and global development contexts.	Produces professionals capable of leading sustainable development initiatives in Puerto Rico and internationally.
Contribute to educational, cultural, social, technological, and economic development	Courses on Puerto Rico’s economy, policy analysis, urban systems, and electives spanning environmental sciences and planning.	Equips graduates to design and implement policies and projects that foster inclusive and sustainable economic growth.
Conduct creative work, research, and service that address societal needs and disseminate results for broad accessibility	Research training in quantitative/qualitative methods; requirement of applied projects with policy and community relevance.	Generates knowledge that is accessible and useful to policymakers, communities, and the broader public.

⁸ Universidad de Puerto Rico, Recinto Universitario de Mayagüez. (2025). Misión [Web page]. <https://www.uprm.edu/portales/mision/>

UPRM Mission Component	Corresponding Program Features	Expected Impact
Provide students with skills and sensitivity to solve problems effectively	Core emphasis on resilience, poverty reduction, disaster preparedness, and equity within the economic development framework.	Ensures graduates combine technical expertise with ethical and cultural sensitivity in problem-solving.
Model values and attitudes that should prevail in a democratic society that values and respects diversity	Program learning outcomes incorporate ethics, democratic governance, sustainability, and social responsibility.	Reinforces UPRM's commitment to democracy and diversity by producing graduates who embody these principles in practice.

Finally, the creation of the Master of Arts in Sustainable Economic Development is fully aligned with the UPRM Strategic Plan 2025–2030, which emphasizes academic innovation, institutional sustainability, research with social commitment, and the promotion of ethical and cultural values.⁹ The program contributes directly to several of the plan's strategic issues, goals, and objectives by diversifying graduate offerings, promoting applied and interdisciplinary research, fostering alliances, and preparing socially responsible professionals capable of addressing Puerto Rico's pressing challenges.

UPRM Strategic Plan Goal (2025–2030)	Corresponding Program Features	Expected Impact
Strategic Issue 1, Goal 1: Diversify academic offerings through high-quality, relevant, and competitive programs in face-to-face, distance, hybrid, and multimodal modalities	Establishes a new graduate program in Sustainable Economic Development, offering 21 core credits and 15 electives, integrating economics, sustainability, governance, and disaster resilience.	Strengthens UPRM's graduate portfolio; attracts diverse student populations; ensures competitiveness and responsiveness to demographic and labor market shifts.
Strategic Issue 1, Goal 1.1.3: Facilitate the transition of undergraduates to graduate programs within or across campuses	Builds pathways for UPRM undergraduates in Economics and related fields to continue graduate studies locally.	Improves student retention within UPR system; reduces educational costs; increases continuity in training advanced professionals.
Strategic Issue 1, Goal 1.1.6: Expand early opportunities for student participation in work, entrepreneurship, and research experiences	Curriculum emphasizes applied research, policy analysis, and hands-on projects in economic development and sustainability.	Enhances student employability; integrates students in real-world problem-solving; strengthens applied learning outcomes.

⁹ Universidad de Puerto Rico, Recinto Universitario de Mayagüez. Oficina de Investigación Institucional y Planificación. (2012). *Plan estratégico del RUM (2012-2022)* [PDF]. <https://oiip.uprm.edu/wp-content/uploads/2015/09/Plan-Estrate%CC%81gico-2012-2022-Espan%CC%83ol.pdf>

UPRM Strategic Plan Goal (2025–2030)	Corresponding Program Features	Expected Impact
Strategic Issue 2, Goal 6: Develop strategic alliances that strengthen services for external communities and contribute to UPRM’s fiscal sustainability	Program emphasizes partnerships with government, NGOs, and the private sector to apply research in local development projects.	Generates collaborative initiatives; secures external funding; contributes to UPRM’s role as a regional development leader.
Strategic Issue 3, Goal 7: Facilitate collaboration among UPRM and external researchers to establish networks and consortia for knowledge creation	Students trained in quantitative/qualitative research; faculty lead interdisciplinary projects linked to sustainability and resilience.	Positions UPRM as a hub for applied development research; expands participation in consortia; increases competitive grant-seeking.
Strategic Issue 3, Goal 9: Increase student participation in research, entrepreneurship, and creative work as an integral part of university training	Integrates a strong research component, including data analysis, academic publishing, and policy-relevant projects.	Prepares students for doctoral studies; promotes research dissemination; enhances UPRM’s academic reputation.
Strategic Issue 4, Goal 10: Foster tools and educational settings that strengthen ethical and social responsibility	Curriculum integrates equity, ethics, sustainability, and democratic participation into student learning outcomes.	Cultivates graduates capable of ethical, culturally grounded policymaking; reinforces UPRM’s mission of social responsibility.

B. Relation to academic offerings in UPR and other higher education institutions

The proposed Master of Arts in Sustainable Economic Development has been designed in recognition of existing graduate programs in economics within the University of Puerto Rico system and the broader higher education landscape in Puerto Rico. The analysis demonstrates that, while related programs exist, none address the specific academic and societal needs that this program seeks to fulfill.

Currently, the UPR system offers two graduate-level programs in economics:

- The Master’s in Economics at the University of Puerto Rico–Río Piedras (UPRRP), classified under IPEDS code 45.0601 – Economics, General. This program emphasizes economic theory and is ideal for students pursuing doctoral studies abroad. While rigorous, it does not specialize in applied areas of sustainability, governance, or interdisciplinary approaches that integrate disaster resilience and social equity.
- The Master’s in Agricultural Economics at the University of Puerto Rico–Mayagüez (UPRM), classified under IPEDS code 01.0103 – Agricultural Economics. This program takes a more applied approach than the UPRRP offering, but it is sector-specific,

focusing almost exclusively on agriculture. It does not cover broader areas of economic development, sustainability, or governance relevant to Puerto Rico's overall economy.

The proposed Master of Arts in Sustainable Economic Development, classified under IPEDS code 45.0604 – Development Economics and International Development, complements both existing programs while filling a critical academic gap. It emphasizes applied economics, sustainability, disaster preparedness, governance, and interdisciplinary integration—areas not systematically addressed in either the Río Piedras or Mayagüez programs. It is worth noting that the proposed Masters of Arts in Sustainable Economic Development would have distinct courses that are not shared by the other programs.

At present, no private universities in Puerto Rico offer graduate degrees in economics or development economics. Graduate education in economics within Puerto Rico is therefore limited to the UPR system. This absence highlights the importance of introducing a new program that broadens options for students while strengthening the UPR's leadership in advanced economics training.

The lack of graduate programs focused on development studies in Puerto Rico demonstrates both the pertinence and necessity of the proposed program. Whereas the Río Piedras program prepares students primarily for academic research and doctoral study in pure economics, and the Mayagüez agricultural program serves a specific sector, the new program responds to broader structural challenges such as poverty, inequality, economic diversification, and resilience to natural hazards. Its interdisciplinary design, hands-on learning approach, and focus on applied research make it a distinctive and attractive alternative for students seeking professional careers as well as those considering further doctoral studies.

Institutional data from the Department of Economics at UPRM indicate that approximately 75% of undergraduate economics graduates pursue graduate studies, with many expressing a preference for continuing their education at UPRM. Given the prohibitive costs of graduate education in the United States and the growth of the Puerto Rican diaspora, it is expected that demand will include both local students and Puerto Ricans abroad seeking affordable, high-quality graduate training. By maintaining a cap of 5 admissions per year, the program ensures quality while aligning with projected student demand. Furthermore, as discussed further in this proposal, the admissions requirements only require a modest amount of undergraduate coursework in economics. This ensures the program is accessible to students who have majored in fields outside of economics, within and outside the UPR system, if they take the required economics courses as part of their recommended or free electives.

The program complements and strengthens the existing portfolio of UPR graduate offerings. It shares methodological foundations with the Río Piedras and Agricultural Economics programs (e.g., in econometrics and economic theory) but expands into applied and interdisciplinary domains. This creates opportunities for collaboration, such as shared faculty expertise, elective offerings, and joint research initiatives. The program will also benefit from synergies with other UPRM units in environmental sciences, engineering, and planning, broadening students' training and research opportunities.

The program will be administered within the Department of Economics at UPRM, leveraging existing faculty expertise and infrastructure. The Department currently has adequate facilities, including classrooms, seminar spaces, computer labs, and access to major academic databases. No major increases in sections, support staff, or infrastructure are anticipated in the initial years. Modest budgetary allocations for office supplies and eventual faculty renewal (due to retirements) are already factored into the program plan. Thus, the new program strengthens the Department's profile and graduate capacity without placing undue strain on institutional resources.

Over time, the program could establish collaborations with related programs within the UPR system (Río Piedras and Agricultural Economics at Mayagüez) and internationally. Such collaborations may include joint seminars, co-taught electives, research consortia, and exchange opportunities. These collaborations would be formalized through agreements or memoranda of understanding, contributing to the long-term sustainability and visibility of the program.

Conceptual Framework

A. Mission

The Master of Arts in Sustainable Economic Development at the University of Puerto Rico–Mayagüez prepares graduates to address Puerto Rico's pressing economic, social, and environmental challenges through rigorous, interdisciplinary, and applied training. Its mission is to cultivate professionals who combine advanced economic knowledge with a strong foundation in sustainability, professional ethics, and public responsibility. Graduates will be equipped to develop and implement policies and practices that strengthen resilience, broaden opportunities for participation in development, and promote long-term development in Puerto Rico and in comparable developing economies.

B. Program Goals and Learning Objectives

Goals

1. Provide students with a rigorous interdisciplinary graduate education in economics and sustainability.
2. Prepare graduates to critically analyze economic development issues and propose evidence-based, contextually relevant solutions.
3. Strengthen students' ability to communicate research and policy recommendations clearly in both Spanish and English.
4. Develop advanced competencies in quantitative and qualitative research methods applied to sustainable development.
5. Instill ethical, democratic, and culturally grounded values in graduates' professional practice.

6. Position UPRM as a leader in Puerto Rico and the Caribbean in research, training, and public engagement on sustainable development.

Program Learning Objectives

Graduates will be able to:

1. Engage in lifelong and interdisciplinary learning by integrating knowledge from economics, environmental science, policy studies, and related disciplines to design sustainable solutions.
2. Think critically and evaluate economic theories, environmental policies, and practices that affect sustainable development.
3. Communicate effectively, orally and in writing, in both Spanish and English, articulating complex sustainability and economic concepts to diverse audiences.
4. Apply knowledge and skills from their field of study to identify and solve real-world problems in sustainable development.
5. Apply mathematical reasoning, the scientific method, research designs, and information technologies to conduct and analyze research in sustainable economic development.
6. Design and advocate for economic policies and practices that address the unique challenges and opportunities of developing economies.
7. Demonstrate appreciation for the values of a democratic society and contribute to promoting sustainable economic development within such a society.
8. Demonstrate respect for human diversity in all its dimensions and for nature and the environment, particularly in Puerto Rico, through sustainable economic practices.

Student Learning Outcomes

1. Students will demonstrate an ability to integrate knowledge from economics, environmental science, policy studies, and other relevant fields to devise sustainable economic solutions.
2. Students will be skilled in critical analysis and evaluation of economic theories, policies, and practices that impact sustainable development.
3. Students will excel in communicating complex economic and sustainability concepts clearly and persuasively, in both Spanish and English, across a variety of platforms and audiences.

4. Students will apply advanced economic theories, research methodologies, and sustainability practices to identify, analyze, and solve real-world problems.
5. Students will demonstrate the ability to use quantitative analysis, the scientific method, and research designs to address questions related to sustainable economic development.
6. Students will be able to propose policies that are culturally and contextually relevant, aligning with the contexts of developing economies like Puerto Rico and others within the Global South, and embodying values of diversity, equity, and inclusion.
7. Students will recognize the ethical implications of economic decisions and integrate ethical considerations into responsible policymaking and implementation.
8. Students will understand and appreciate the principles of a democratic society, including the economic underpinnings and the role of the individual in influencing economic policy and practice.
9. Students will respect human diversity and the natural environment, particularly focusing on sustainable practices that protect and preserve the environment in Puerto Rico and globally.
10. Engage in Teamwork: Students will exhibit the ability to work collaboratively in interdisciplinary teams, leveraging diverse skills and perspectives to develop innovative solutions to sustainability challenges.

Alignment Matrix:

Program Learning Objectives	Aligned Student Learning Outcomes
1. Lifelong & interdisciplinary learning	SLO 1, SLO 10
2. Critical thinking & evaluation	SLO 2
3. Effective bilingual communication	SLO 3
4. Apply knowledge & skills to real-world problems	SLO 4, SLO 10
5. Mathematical reasoning, scientific method, research designs & IT	SLO 5
6. Context-relevant policy for Global South & Puerto Rico grounded in diversity, equity, and inclusion.	SLO 6, SLO 7
7. Democratic values & individual's role	SLO 8
8. Respect for diversity & environment	SLO 9

(Matrix shows primary linkages for assessment traceability; many SLOs are reinforced across courses.)

C. Educational Philosophy

The program envisions its graduates as principled, public-minded, and bilingual professionals who are grounded in Puerto Rico's economic and social realities while remaining capable of drawing lessons from international experiences. They are expected to become leaders who can link solid academic training with practical solutions to pressing development challenges.

Learning in the program is understood as an evidence-based, interdisciplinary, and applied process. Students are trained to integrate quantitative and qualitative methods, apply the scientific method, and engage directly with communities, institutions, and stakeholders. The role of the faculty is to facilitate rigorous inquiry and critical reflection, while students take active responsibility for constructing and applying knowledge to real-world contexts.

The program emphasizes professional ethics, civic responsibility, environmental stewardship, and respect for cultural and human diversity. These values guide how graduates analyze problems, design solutions, and evaluate the impact of their recommendations. By grounding their work in ethical reasoning and a sense of responsibility toward both society and the natural environment, graduates are prepared to contribute constructively to sustainable economic development in Puerto Rico and other developing economies.

D. Coherence and Sufficiency

The conceptual framework of the Master of Arts in Sustainable Economic Development demonstrates coherence by establishing a clear and logical relationship among the program's mission, goals, program objectives, and student learning outcomes. Each component builds directly on the preceding one, ensuring that what the program aspires to achieve is translated into measurable outcomes for students. The mission defines the overarching purpose, the goals provide long-term direction, the program objectives articulate specific areas of competency, and the learning outcomes describe observable achievements that will be evaluated through the program's assessment plan. This internal consistency is reinforced by the alignment of the program framework with the institutional missions of UPR and UPRM, as well as with recognized standards of quality in graduate education.

The framework also demonstrates sufficiency by providing the necessary structure to support a graduate program of this scope and level. The combination of interdisciplinary coursework, applied research, bilingual communication skills, and values-driven professional formation ensures that students will be adequately prepared for careers in government, the private sector, non-governmental organizations, and doctoral studies. The program is realistic in its design, drawing on the expertise of current faculty, the infrastructure available at UPRM, and the pressing development needs of Puerto Rico. Taken together, the coherence and sufficiency of the framework guarantee that the program is both academically rigorous and institutionally feasible, while remaining responsive to the broader context in which it will operate.

Curriculum Design

A. Curriculum Scheme and Balance

1. Curricular structure. The master's program comprises 36 credits distributed as follows: 21 credits of Core Courses, 9 credits of Recommended Electives (that may include ECON courses), and 6 credits of Free Electives (that may not include ECON courses). General Education does not apply at the graduate level. There is no thesis/capstone requirement in this design. Percentages by component are shown in the tables below.

Core Courses			
Code & Numbering	Course Title	Credits (student)	Contact Hours
ECON 5025	Foundations of Sustainable Economic Development	3	45
ECON 6185	Economic Analysis for Wellbeing and Sustainability	3	45
ECON 6045	Data Analysis in Economics	3	45
ECON 6075	Political Economy and Sustainable Economic Development	3	45
ECON 6186	The Economy of Puerto Rico in the 21st Century	3	45
ECON 6XXX	Sustainable Urban Systems	3	45
ECON 6250	Writing and Publishing in Economics	3	45
Total		21	315
Percent of Program Credits		58.3%	

Recommended Electives			
Code & Numbering	Course Title	Credits (student)	Contact Hours
<i>Recommended Elective Graduate level</i>	-	3	45
<i>Recommended Elective Graduate level</i>	-	3	45

Recommended Electives			
Code & Numbering	Course Title	Credits (student)	Contact Hours
<i>Recommended Elective Graduate level</i>	-	3	45
Total		9	135
Percent of Program Credits		25%	

Free Electives (Excluding ECON)			
Code & Numbering	Course Title	Credits (student)	Contact Hours
<i>Free Elective Graduate level</i>	-	3	45
<i>Free Elective Graduate level</i>	-	3	45
Total		6	90
Percent of Program Credits		16.7%	

2. Flexibility

The curriculum of the Master of Arts in Sustainable Economic Development balances academic structure with meaningful flexibility for students. Of the 36 required credits, 21 credits (58.3%) are core courses that ensure all graduates acquire a common foundation in sustainable economic development, Puerto Rico's economy, political economy, research methods, and professional communication. Alongside this structured core, the program provides 9 credits of recommended electives (25%) and 6 credits of free electives (16.7%), giving students the ability to tailor their studies according to individual interests and career goals.

The recommended electives draw from graduate-level courses in economics and related disciplines. These options allow students to deepen their preparation in areas directly aligned with the program's objectives. The free electives extend flexibility further, permitting students to choose from any graduate-level courses offered at UPRM.

This design ensures curricular coherence while respecting the principle of flexibility established in UPR policies.

3. Balance

The curriculum of the Master of Arts in Sustainable Economic Development demonstrates an appropriate balance between educational level, disciplinary focus, course design, and total program credits. The program requires 36 credits (540 contact hours), which is consistent with graduate-level master's programs in economics and development studies at accredited universities in Puerto Rico and internationally. Within the UPR system, the distribution aligns with the 36–42 credit range of comparable master's programs, such as the M.A. in Economics at UPR–Río Piedras (CIP 45.0601) and the M.S. in Agricultural Economics at UPR–Mayagüez (CIP 01.0103).

The curricular design maintains harmony and alignment across components. The 21-credit core (58.3%) ensures that all students acquire advanced knowledge of sustainable development theory, Puerto Rico's economy, political economy, research methods, urban systems, and professional writing. The 9 credits of recommended electives (25%) provide structured flexibility within economics and related disciplines, while the 6 credits of free electives (16.7%) allow students to broaden their training through graduate offerings across UPRM. This balance between structure and flexibility ensures coherence with the program's mission, goals, and learning outcomes while providing students with the capacity to tailor their training to individual trajectories.

The distribution of credits and contact hours meets the standards of the UPR system and the expectations of accreditation for master's programs in the social sciences. The program's design is therefore both academically rigorous and fully appropriate for a graduate-level degree in sustainable economic development.

B. Courses that compose the curriculum

The curriculum of the Master of Arts in Sustainable Economic Development consists of 36 credits: 21 credits of core courses, 9 credits of recommended electives, and 6 credits of free electives. All courses are designed at the graduate level (5000–6000).

Core Courses (21 credits)

ECON 5025 – Foundations of Sustainable Economic Development (3 credits, 45 contact hours)

Examination of the different facets of sustainable economic development, including education, health, climate change, gender, land relations, public policy, and industrial policy. Through a multidisciplinary and pluralistic perspective, students will analyze how these interconnected factors affect economic and social development. Critical application of economic concepts to address contemporary challenges in sustainable development.

ECON 6185 – Economic Analysis for Wellbeing and Sustainability (3 credits, 45 contact hours)

Analysis of the interactions between economic growth, sustainability, and social well-being in the 21st century. Through an interdisciplinary approach, emerging economic models that seek to harmonize human aspirations with planetary boundaries are examined. Emphasis on the rigorous application of contemporary theories, systemic thinking, and policy evaluation to foster resilient and regenerative economies. Through case studies, policy analyses, and research projects, concepts of economic well-being, sustainability measurement, and strategies to implement structural changes toward sustainable and equitable economic practices will be explored.

ECON 6045 – Data Analysis in Economics (3 credits, 45 contact hours)

Practical foundations in applied data analysis focused on sustainable economic development. Students will use statistical and econometric tools to explore relationships among economic, social, and environmental variables. Working with real-world datasets, the course emphasizes policy evaluation, pattern recognition, and data-driven recommendations. Key components include data cleaning, visualization, interpretation of statistical models, time series analysis, and clear communication of results of sustainability studies. Ethical and technical limitations of empirical analysis in sustainability contexts will also be addressed.

ECON 6075 – Political Economy and Sustainable Economic Development (3 credits, 45 contact hours)

Analysis of the concept of sustainable economic development from a historical and critical perspective. It examines how economic processes are intertwined with political, cultural, and environmental dynamics throughout human economic history. Students will evaluate how these interactions have influenced both the theory and practice of sustainable economic development. Through a pluralistic approach, the course will cover topics such as power structures, class relations, the role of institutions, and the impact of globalization on economic and social development.

ECON 6186 – The Economy of Puerto Rico in the 21st Century (3 credits, 45 contact hours)

Analysis of the economic dynamics that have shaped Puerto Rico in the 21st century. Examination of the rise and collapse of the dependent growth model, the process of deindustrialization, secular stagnation, and the debt crisis. Evaluation of the impact of the Financial Oversight and Management Board, austerity measures, and the role of aid following natural disasters in the post-2017 period. Discussion on Puerto Rico's economic challenges and possible paths toward sustainable economic development.

ECON 6XXX – Sustainable Urban Systems (3 credits, 45 contact hours)

Interdisciplinary exploration of how economics and planning can be applied to promote sustainable, healthy, and equitable urban development. Case studies are utilized to understand the benefits of integrating these fields when addressing challenges in land use planning, housing, transportation policy, and community participation. Emphasizing critical analysis, potential solutions are discussed for socioeconomic problems related to social justice, resilience, and environmental management in urban environments.

ECON 6250 – Writing and Publishing in Economics (3 credits, 45 contact hours)

Study and practice of the foundations of academic and professional writing in the field of economics. Research techniques, data analysis, and the development of solid economic arguments will be explored for the creation of effective reports aimed at the public or private sector. The course fosters critical thinking in writing, culminating in the production of an original article suitable for consideration in peer-reviewed academic journals, thereby strengthening communication and publication skills in the field of sustainable economic development.

Recommended Electives (9 credits)

Students must select 9 credits in graduate courses in consultation with their graduate committee to define their recommended elective courses.

Free Electives (6 credits)

Students will select two courses (6 credits) from any graduate-level offerings at UPRM excluding ECON courses.

Curricular Sequence

The program is designed for full-time students to complete the degree in two academic years (four semesters). The recommended sequence is as follows:

First Year – First Semester

- ECON 5025 – Foundations of Sustainable Economic Development (3)
- ECON 6185 – Economic Analysis for Wellbeing and Sustainability (3)
- ECON 6045 – Data Analysis in Economics (3)

Total: 9 credits

First Year – Second Semester

- ECON 6075 – Political Economy and Sustainable Economic Development (3)
- ECON 6186 – The Economy of Puerto Rico in the 21st Century (3)
- Recommended Elective (3)

Total: 9 credits

Second Year – First Semester

- ECON 6XXX – Sustainable Urban Systems (3)
- ECON 6250 – Writing and Publishing in Economics (3)
- Recommended Elective (3)

Total: 9 credits

Second Year – Second Semester

- Recommended Elective (3)
- Free Elective (3)
- Free Elective (3)

Total: 9 credits

This sequence ensures that students begin with a strong methodological and theoretical foundation, then progressively apply this knowledge to Puerto Rico's economy, political economy, and interdisciplinary contexts, culminating with advanced training in urban systems and scholarly communication.

The curriculum of the Master of Arts in Sustainable Economic Development is coherent in its articulation of mission, goals, program objectives (PLOs), student learning outcomes (SLOs), and course design. Each component builds logically on the others, ensuring that the curriculum delivers the competencies identified in the graduate profile. Sufficiency is demonstrated by the structured balance of 21 credits in core courses, 9 credits in recommended electives, and 6 credits in free electives, which together provide both the academic depth and flexibility required for graduate-level study.

The table in the following section shows the alignment between Program Learning Objectives (PLOs), Student Learning Outcomes (SLOs), and the courses that support their achievement. As expected at the master's level, most courses contribute to multiple PLOs and SLOs, while every element of the graduate profile is addressed by more than one course. This ensures that the program outcomes are reinforced progressively across the curriculum.

C. Coherence and Curricular Sufficiency

The curriculum of the Master of Arts in Sustainable Economic Development is coherent in its articulation of mission, goals, program objectives (PLOs), student learning outcomes (SLOs), and course design. Each component builds logically on the others, ensuring that the curriculum delivers the competencies identified in the graduate profile. Sufficiency is demonstrated by the structured balance of 21 credits in core courses, 9 credits in recommended electives, and 6 credits in free electives, which together provide both the academic depth and flexibility required for graduate-level study.

The table below shows the alignment between Program Learning Objectives (PLOs), Student Learning Outcomes (SLOs), and the courses that support their achievement. As expected at the master's level, most courses contribute to multiple PLOs and SLOs, while every element of the graduate profile is addressed by more than one course. This ensures that the program outcomes are reinforced progressively across the curriculum.

Program Learning Objective (PLO)	Student Learning Outcome (SLO)	Course Code	Course Title
1. Engage in lifelong and interdisciplinary learning by integrating knowledge from economics, environmental science, policy studies, and related disciplines to design sustainable solutions.	SLO 1. Integrate knowledge across fields SLO 10. Teamwork	ECON 5025	Foundations of Sustainable Economic Development
		ECON 6075	Political Economy and Sustainable Economic Development
		ECON 6XXX	Sustainable Urban Systems
		Recommended/Free Electives	Interdisciplinary courses from approved list
2. Think critically and evaluate economic theories, environmental policies, and practices that affect sustainable development.	SLO 2. Critical analysis	ECON 6185	Economic Analysis for Wellbeing and Sustainability
		ECON 6075	Political Economy and Sustainable Economic Development
		ECON 6186	The Economy of Puerto Rico in the 21st Century

Program Learning Objective (PLO)	Student Learning Outcome (SLO)	Course Code	Course Title
3. Communicate effectively, orally and in writing, in both Spanish and English, articulating complex sustainability and economic concepts to diverse audiences.	SLO 3. Bilingual communication	ECON 6250	Writing and Publishing in Economics
		INGL 5007 / INGL 6030 / ESHI 6020	Oral/Academic Writing Electives
4. Apply knowledge and skills from their field of study to identify and solve real-world problems in sustainable development.	SLO 4. Apply theories/methods to real-world problems SLO 10. Teamwork	ECON 5025	Foundations of Sustainable Economic Development
		ECON 6045	Data Analysis in Economics
		ECON 6XXX	Sustainable Urban Systems
		GEOL 6215 / CMOG 5001	Recommended Electives
5. Apply mathematical reasoning, the scientific method, research designs, and information technologies to conduct and analyze research in sustainable economic development.	SLO 5. Quantitative and scientific method	ECON 6045	Data Analysis in Economics
		ECON 6185	Economic Analysis for Wellbeing and Sustainability
		Recommended Electives	Methods/statistics courses from approved list
6. Design and advocate for economic policies and practices that address the unique challenges and opportunities of developing economies.	SLO 6. Context-relevant policy design SLO 7. Ethics in policymaking	ECON 6075	Political Economy and Sustainable Economic Development
		ECON 6186	The Economy of Puerto Rico in the 21st Century
		ECON 6XXX	Sustainable Urban Systems
7. Demonstrate appreciation for the values of a democratic society and contribute to promoting sustainable	SLO 8. Democratic society	ECON 5025	Foundations of Sustainable Economic Development

Program Learning Objective (PLO)	Student Learning Outcome (SLO)	Course Code	Course Title
economic development within such a society.		ECON 6075	Political Economy and Sustainable Economic Development
8. Demonstrate appreciation for the values of a democratic society and contribute to promoting sustainable economic development within such a society.	SLO 9. Respect for diversity & environment	ECON 5025	Foundations of Sustainable Economic Development
		ECON 6XXX	Sustainable Urban Systems
		Recommended/Free Electives	Environmental & social science electives

D. Educational Methodologies

The Master's Program in Sustainable Economic Development at the University of Puerto Rico at Mayagüez (UPRM), is committed to employing a variety of effective teaching strategies to enhance learning outcomes and foster an engaging and inclusive educational environment. These strategies are designed to cater to diverse learning styles, encourage active learning, and ensure that students are well-prepared to meet the challenges of sustainable economic development.

The program will incorporate the following teaching strategies:

1. Professor Lectures: These will serve as the foundation for each course, where professors will share their knowledge and expertise, introducing students to core concepts, theories, and the latest research in sustainable economic development. Lectures will also include discussions on real-world applications to bridge theory with practice.
2. Readings: Students will engage with a wide range of texts, including academic articles, case studies, and reports from leading institutions. These readings are selected to complement lectures, deepen understanding of subject matter, and stimulate critical thinking.
3. Group Work: Collaborative projects will encourage teamwork, communication, and problem-solving skills. Working in groups will allow students to tackle complex issues from multiple perspectives, fostering a collaborative learning environment where ideas and solutions can be shared and refined.
4. Individual Assignments: To ensure a comprehensive understanding of the material, students will complete individual tasks that challenge them to apply concepts and theories to specific problems. These assignments will also enhance research and analytical skills.
5. Assessment Activities: Various forms of assessments, including quizzes, mid-term exams, and final exams, will be used to evaluate students' understanding of course material. These activities will provide feedback to both students and instructors on progress and areas needing improvement.

6. Practical Activities: To bridge theory and practice, the program will incorporate hands-on activities such as case study analyses, data analysis projects, and simulations. These activities are designed to provide students with real-world experience and skills applicable to their future careers.

7. Oral Presentations: Students will have opportunities to present their work to peers and faculty, enhancing their public speaking and presentation skills. These presentations will also encourage the sharing of research findings and the development of persuasive argumentation techniques.

By employing these diverse teaching strategies, the Master's Program in Sustainable Economic Development aims to create a dynamic and supportive learning environment that prepares students for the complexities of addressing sustainable economic development both in Puerto Rico and globally. These strategies reflect the program's commitment to academic excellence, critical thinking, and the practical application of knowledge.

E. Course Syllabi

Included in Appendix

Admissions and Graduation Criteria

A. Admissions Requirements

For the Master of Arts Degree in Sustainable Economic Development in addition to the general requirements for admission to the Office of Graduate Studies of the University of Puerto Rico at Mayagüez, applicants to the program should satisfy the following conditions:

- Applicants for admission should hold a bachelor's degree from an accredited university with a minimum GPA of 3.00 (those with a GPA between 2.80 and 2.99 may be considered at the discretion of the Department Graduate Committee).
- Evidence of having approved the following ECON courses (or equivalents) with an average of 3.00 and above:
 - ECON 3091. Microeconomic Theory (3 credits)
 - ECON 3092. Macroeconomic Theory (3 credits)
- Evidence of having approved six credits in statistics, preferably econometrics.
- Three recommendation letters from professionals who are familiar with the applicant's academic and/or professional work.
- Submit a one-page, single spaced statement of purpose with their UPRM's on-line application.
- Complete a personal interview with a member of the Department Graduate Committee and/or the Chair of the Department.

- Students who partially meet these requirements may be admitted on a provisional basis until deficiencies are met.

B. Enrollment Projections

The program anticipates modest but steady enrolment, consistent with UPRM's graduate capacity, faculty resources, and the size of comparable programs in the UPR system. Admissions will be capped at 5 new students per year to ensure quality and maintain manageable student–faculty ratios. An 85% retention rate and a 75% on-time completion (two years) rate have also been factored into the projections.

Academic Year	New Admissions	Continuing Students	Total Active Enrolment	Graduates (Annual)
Year 1	5	—	5	—
Year 2	5	4	9	3
Year 3	5	5	10	4
Year 4	5	5	10	4
Year 5	5	5	10	4

The program anticipates admitting five students per year, a number that reflects both institutional capacity and the experience of comparable graduate programs within the UPR system. Based on expected retention patterns, approximately seven students per cohort will continue into the second year, producing an active enrollment that stabilizes at about ten students from the second year onward. Beginning in Year 3, it is anticipated that roughly four students will graduate annually, assuming a timely completion rate of 75% within two years.

These projections are consistent with the performance of related programs such as the M.A. in Economics at UPR–Río Piedras and the M.S. in Agricultural Economics at UPR–Mayagüez, both of which admit small cohorts and maintain strong retention and graduation outcomes. The retention rate used in the projections, approximately 85%, and the average time-to-degree of two years, are aligned with UPR graduate benchmarks and the expectations of accreditation bodies for master's-level study.

The Department of Economics is well positioned to sustain this level of enrollment. With nine full-time faculty members holding doctoral degrees, sufficient classroom space, and access to computing laboratories, databases, and library resources, the department can comfortably support between sixteen and twenty active students without requiring additional infrastructure. Importantly, the projected number of graduates—5 per year—will meet demand in the labor market without oversaturating it. Graduates will be competitive for positions in public service, non-governmental organizations, private sector consulting, and doctoral programs, all areas where there is documented need for professionals with training in sustainable development.

Recruitment efforts will be focused and proactive. The program seeks to attract five high-quality applicants each year, retain at least 85% into the second year, and establish a reputation as a distinctive graduate offering in Puerto Rico. Recruitment activities will include information sessions for senior

undergraduates at UPRM and UPR–Río Piedras, collaboration with the UPRM Graduate Studies Office to ensure visibility in centralized promotion, targeted digital outreach to the Puerto Rican diaspora, and direct engagement with NGOs, government agencies, and research institutes likely to sponsor students. These efforts will be coordinated by the Program Coordinator, with support from the Department of Economics' recruitment budget, the Graduate Studies Office's marketing channels, and active participation of faculty in open houses and academic fairs. The recruitment cycle will follow a consistent timeline, beginning each September with outreach and promotion, continuing with an application deadline in February, admission decisions in April, and student orientation and onboarding in August.

C. Requirements for Degree

To earn the Master of Arts in Sustainable Economic Development, students must successfully complete a minimum of thirty-six (36) credits of graduate coursework within a maximum period of five (5) years from the date of admission.

The curriculum is structured as follows:

- twenty-one (21) credits of core courses;
- nine (9) credits of recommended electives, and
- six (6) credits of free electives.

This distribution ensures that all graduates obtain a rigorous foundation in sustainable economic development while retaining the flexibility to pursue complementary interdisciplinary interests.

Students must maintain a minimum general grade point average (GPA) of 3.00 on a 4.00 scale to remain in good standing and to qualify for graduation, in accordance with the Graduate Studies regulations of the University of Puerto Rico. A minimum grade of B is required in all core courses; grades below this threshold must be repeated to satisfy program requirements. Courses may only be repeated once.

A maximum of six (6) credits may be accepted in transfer from another accredited graduate program, subject to approval by the Department of Economics and the UPRM Graduate Studies Office. Transfer credits must carry a grade of B or higher, must not have been used to satisfy the requirements of another awarded degree, and must fall within the five-year limit for degree completion.

The program does not require a thesis, dissertation, or comprehensive examination. Instead, students demonstrate mastery through coursework, applied projects, and the capstone requirement of ECON 6250 – Writing and Publishing in Economics, which trains students to produce publishable academic or policy-oriented work. No additional residency, internship, or language requirements are imposed beyond those specified in the program curriculum.

Retention and promotion standards follow those of the UPR Graduate Studies regulations. Students whose GPA falls below 3.00 will be placed on probation for one semester, after which failure to meet the required standard will result in academic dismissal. Leaves of absence may be granted in exceptional circumstances, but do not extend the five-year time limit for degree completion.

Faculty

The Department of Economics presently has a faculty of nine (9) professors, all of which are full-time, with doctoral degrees, and tenured or on tenure-track. The *curriculum vitae* (CV) for each faculty member is available at the Appendix.

NAME	DEGREES AWARDED	RANK	Department	Date Hired	Courses
José I. Alameda Lozada	PhD ECON The University of Wales, Aberystwyth (1996) MA ECON Rutgers University (1983) MPlan UPR-RP (1976) BBA UPRM (1972)	Professor; Full-time Tenured	Economics	1992	Macroeconomics and Microeconomics, Managerial Economics, Comparative Economics Systems, Mathematics for Economists, Economic and Social Development of Puerto Rico, International Trade and Finances, Business Cycles
Dahil R. Colón Arbelo	PhD ECON Universidad de Zaragoza (2025) MA ECON Universidad Complutense de Madrid (2018) MA Sociology Universidad Complutense de Madrid (2013) BA Social Sciences UPR-Arecibo (2011)	Assistant Professor, Full-Time On Tenure Track	Economics	2025	Economic and Social Development of Puerto Rico, History of Economic Thought, Microeconomics
Olben Delgado Méndez	PhD Business Education NYU (1996)	Professor, Full-time Tenured	Economics	1987	Microeconomics, Research Methods in Economics,

	MA ECON UPR-RP (1974) BA Psychology & Economics UPR-RP (1967)				
Carlos A. del Valle González	PhD Planning & Design University of Colorado, Denver (2011) MPlan UPR-RP (2000) BA ECON UPRM (1995)	Professor, Full-time Tenured	Economics	2013	Strategic Prospective and Scenario Building, Economic and Social Development of Puerto Rico, Economic Development, History of Economic Thought, Microeconomics, Macroeconomics, Project Evaluation, Public Sector Economics, Research Methods in Economics, Transportation Economics, Urban Economics
Ivonne del C. Díaz Rodríguez	PhD Environmental and Natural Resource Econ, Ohio State Univ (1999) MA ECON Ohio State Univ. (1994) MBA Accounting UPR-RP (1991) BBA Accounting UPR-Bayamon (1983)	Professor, Full time Tenured	Economics	2000	Microeconomics, Ecological Economics, Environmental Economics, Natural Resource Economics, Economics of Wellbeing and Sustainability, Sustainable Development, Special Topics in Economics, and Special Projects in Economics, Resource Economics
Ricardo R. Fuentes Ramírez	PhD ECON Univ of Massachusetts-Amherst (2016) MA ECON Univ of Massachusetts-Amherst (2014) BA ECON UPRM (2010)	Associate Professor, Full-time On Tenured Track	Economics	2021	Research Methods in Economics, Social and Solidarity Economy, Economic and Social Development of Puerto Rico, History of Economic Thought, Microeconomics

Eduardo Kicinski Martín	<p>PhD ECON Univ. of Wisconsin-Madison (1990)</p> <p>MS ECON Univ. of Wisconsin-Madison (1987)</p> <p>MA ECON Univ of Chicago, Chicago Illinois (1984)</p> <p>BA ECON UPR-RP (1982)</p>	Professor, Full-time Tenured	Economics	1998	Econometrics, Labor Economics, International Economics, Macroeconomics, Microeconomics, Money and Banking, Game Theory.
Orlando Sotomayor Rodríguez	<p>PhD ECON Cornell University (1994)</p> <p>MBA Finance Cornell University (1994)</p> <p>BA ECON Cornell University (1985)</p>	Professor, Full-time Tenured	Economics	1995	Microeconomics, Labor Economics, Urban Economics, Project Evaluation,
Jeffrey Valentín Mari	<p>PhD ECON University of Wisconsin-Milwaukee (1999)</p> <p>MA ECON University of Wisconsin-Milwaukee (1994)</p> <p>BA Agriculture Economics UPRM (1991)</p>	Professor, Full-time Tenured	Economics	2001	Microeconomics, Macroeconomics, Economic and Social Development of Puerto Rico, Economics of Regulation & Antitrust, Economic Development, Econometrics, Economics of the Public Sector, Economics of the Internet & Electronic Commerce, Economics of Tourism, Economics and Law, Economics Problems of Latin America, Economics of Industrial Organization. Managerial Economics, Public Finance, International Finance

Program Administrative Structure

The Master of Arts Program in Sustainable Economic Development will be attached to the Department of Economics of the College of Arts and Sciences of the UPR-Mayagüez. The insertion of this new Program within the Department of Economics is academically justified since this department is currently the custodian of the ECON coding courses. The Program will be academically supervised by the coordinator who will be the Director and/or Associate Director of the Department of Economics. This allows UPR-Mayagüez to expand its academic offerings using existing resources, without requiring the unnecessary creation of new administrative units or apparatuses. At the institutional level, the graduate component of the Program will be subject to the rules and regulations implemented by the Office of Graduate Studies of the UPR-Mayagüez, with the assistance of the Departmental Graduate Committee.

The coordinator will be responsible for keeping the records of all graduate students up to date, advising them in the enrollment process, evaluating and recommending equivalencies of courses inside and outside the UPR system, assisting in the programming and ensuring the availability of the Program's courses, both inside and outside the Department, applying the regulations and policies in force, help to constitute the graduate committees of each student of the Program, organize promotion and recruitment activities and liaison with the schools. The coordinator will also share the responsibility of assigning and supervising teaching assistants of the Program, as well as other tasks inherent to the coordination of this Program of an interdisciplinary nature.

Teaching Resources and Infrastructure

The Department of Economics has the physical facilities necessary for the teaching, research, and service required by the Master of Arts Program in Sustainable Economic Development. Among the physical facilities is a computer lab-room (SH-301), necessary for courses that require the use of a computer for each student. It also has a seminar room (SH-309A) and a meeting room (SH-207) ideal for advanced courses. As part of the project to transform the UPR-Mayagüez classrooms into technological classrooms/virtual classrooms, the Information Technology Center (CTI) at UPRM, during Summer 2022 and Summer 2023, classrooms SH-102, SH-103 and SH-104 transformed these classrooms into virtual teaching classrooms. These virtual classrooms will allow the development of educational technologies conducive to non-traditional methodologies of teaching and interactive learning. In addition, all the rooms of the Department have a computer, digital projector and internet access. The Program will also have the necessary resources for research. The Computer Lab at SH-301 has STATA licenses and access to specialized statistical computer programs, such as R, which is distributed free of charge online.

Through the Center for Economic and Financial Education (CEEF), also attached to the Department of Economics, the Program's professors and students will be able to participate in research affiliated with the Center and will have access to the use of the Centre's computer resources and other materials for research. In terms of bibliographic resources, the Department of Economics inaugurated the Founders Library-Museum of the Department of Economics, which will house an extensive collection of resources in various areas of specialty in the economic sciences, including the professional personal collection of Dr. Alfredo González Martínez, founder of the Department. The UPR-Mayagüez General Library also has

local and remote access to databases of specialized peer-reviewed journals that are widely used in economics, such as Cambridge Core, JSTOR, MIT Press Journals, Nature, Oxford Academic Journals, ProQuest, SpringerLink Online Journals, and Wiley Online Library.

Students Services

The UPR-Mayagüez provides a wide range of student services, including academic support centers to the student community. The RUMbo EX Learning and Success Center offers academic advising services (tutoring), peer mentoring, and counseling to students. Likewise, the Bilingual Writing Center provides a free resource to strengthen oral and written communication in Spanish and English and offers workshops and individualized tutorials in academic writing for all disciplines. On the other hand, the Center for Graduate Research and Innovation (GRIC) is a space where graduate students and faculty of the UPR-Mayagüez can meet to develop projects and receive support in specialized services in the research process, academic communication, research methodology and data management.

The program's graduate students will have the opportunity to earn teaching and research assistantships. Master's students can receive up to two years of assistantship, which can be extended for two more years (although only one of which can be sponsored with institutional funds). Students who receive institutionally funded teaching assistantships enjoy tuition waivers (excluding health insurance and other fees). Teaching assistants will work under the supervision of a professor and the Program's Coordinator. Graduate students can also apply for scholarships, for which they can receive guidance from the Office of Graduate Studies, which maintains listings of various programs that offer different types of scholarships. UPR-Mayagüez contributes to student well-being through the services of the Medical Services Center, the Office of Student Services with Disabilities, and the Office of International Students.

Catalog and Dissemination of the Program

In addition to its incorporation into the UPRM Catalog, the program will be announced and promoted through institutional channels (e.g. cartero@uprm.edu), economics students associations across UPR campuses, print and digital news outlets through op-eds, and with the assistance of professional organizations such as the Puerto Rican Economists Association.

The program will also be announced in the department's research journal (*Ceteris Paribus*) and the Puerto Rican Economists Association has expressed their commitment to assist in the dissemination of the program with its membership.

Other recruitment activities will include online publications such as websites and social networks; accompanied by participation in UPR institutional open houses, and visits to high schools. The main resources for the dissemination of the program will be the Economic Department's academic community of faculty, personnel, administrative staff, and our UPRM Economics Student Association.

Budget and Tuition Projection

The budgetary requirements to begin the offerings of the Master of Arts Program in Sustainable Economic Development are relatively modest and do not contemplate immediate increases in the allocated budget items. The Program already has the necessary number of professors to teach the required courses, so there would be no pressing need for new faculty hires until the third year of the program's existence. According to the development of the program, it is required that by the sixth year of the Program, a new professor has been recruited to participate in the offer of courses and in the direction of research work of the graduate students of the Program.

At the moment, the Department of Economics has a total staff of nine (9) professors, of which three professors reflect having more than 30 years of service. In this context, it is expected that by the third year of the Program's existence, at least one of the professors on the staff will have retired. Given the current profile of the Department's teaching staff, the two new teaching hires suggested will not entail additional costs; rather, there will be a payroll savings due to the difference in costs between a new contract of assistant professor versus a contract of permanent professor. On the other hand, an annual investment of \$500 is estimated to cover office supplies to adequately attend to the Program. In addition to an investment of \$2,500 to acquire computer equipment (i.e., PC and battery backup) for each of the recommended teacher hires.

Six-Year Budget Programming (in dollars)

Item	Year					
	1st	2nd	3rd	4th	5th	6th
<i>Recurring Costs</i>						
1. Recruiting Faculty	0	0	0	62,256	0	62,256
2. Office Supplies	500	500	500	500	500	500
Total Recurring Costs	500	500	500	62,756	500	62,756
<i>Non-Recurring Costs</i>						
3. Computer Equipment (<i>PC & Battery Back Up</i>)	0	0	0	3,500	0	3,500
Total Non-Recurring Costs	0	0	0	3,500	0	3,500
Total Costs	500	500	500	66,256	500	66,256

It is very likely that the launch of this master's program will stimulate the submission of new proposals for external funding, particularly those of a collaborative nature. However, given the dynamic and uncertain nature of institutions providing research grants in the social sciences, it is difficult to estimate how much additional revenue will be earned from those sources.

Assessment Plan

The assessment plan for the M.A. in Sustainable Economic Development is outcomes-based and continuous. It is grounded in the program's mission, goals, Program Learning Objectives (PLOs), Student Learning Outcomes (SLOs), and educational philosophy, and it covers resources, faculty, program demand, student services, research activity, and—centrally—student learning. The plan aligns with University of Puerto Rico policies for program evaluation and with campus-level assessment practices consistent with Middle States expectations for institutional effectiveness and student learning.

The plan operates across four checkpoints that provide multiple quantitative and qualitative evidence streams and allow for systematic “closing the loop”:

- Entry (admission/baseline),
- Development (end of Year 1),
- Culmination (final semester/coursework), and
- Post-graduation (alumni and employer feedback).

Data will be collected, analyzed, and acted upon annually by the Program Coordinator and the Graduate Committee (with participation from faculty, students, alumni, and external stakeholders as appropriate). Findings inform decisions ranging from minor adjustments (syllabi, sequencing, advising) to significant revisions; if warranted, evidence can support recommendations to pause or discontinue offerings.

Indicators and performance measures are explicitly mapped to the program Goals, PLOs, and SLOs (matrix below), ensuring that the curriculum demonstrably produces the graduate profile. Course-embedded measures (rubrics for signature assignments), performance in required methods and writing courses, and culminating products provide direct evidence of SLO attainment; indirect measures (surveys, interviews) complement and triangulate results. Inputs (faculty, resources, demand), processes (advising, scheduling, modality), outputs (retention, graduation, time-to-degree), and outcomes (placement, further study, policy/practice impact) are monitored with internal and external data sources.

Goals	UPRM SLOs	FLOs (College of Arts and Sciences)	PLOs (IDs)	SLOs (IDs)
G1. Provide students with a rigorous interdisciplinary graduate education in economics and sustainability.	1. Become an Intentional Learner; 6. Apply interpretative & integrative skills	Engage in lifelong and multi/interdisciplinary learning	PLO 1	SLO 1, SLO 10
G2. Prepare graduates to analyze development issues and propose evidence-based, contextually relevant solutions.	2. Demonstrate Creative and Critical Thinking; 4. Identify and solve problems	Think critically; Apply knowledge/skills to solve problems	PLO 2, PLO 4	SLO 2, SLO 4

Goals	UPRM SLOs	FLOs (College of Arts and Sciences)	PLOs (IDs)	SLOs (IDs)
G3. Strengthen students' ability to communicate research and policy recommendations clearly in Spanish and English.	3. Communicate Effectively	Communicate effectively orally and in writing, in both Spanish and English	PLO 3	SLO 3
G4. Develop advanced competencies in quantitative and qualitative research methods applied to sustainable development.	5. Apply mathematical, scientific and technology skills	Apply mathematical reasoning, the scientific method, research designs, and information technologies	PLO 5	SLO 5
G5. Instill ethical, civic-minded, and culturally grounded professional practice.	9. Practice civil virtue; 7. Relate global contexts and issues of importance to Puerto Rico	Appreciate the essential values of a democratic society...; Be knowledgeable about Puerto Rican heritage and culture; Recognize ethical implications...	PLO 6, PLO 7	SLO 6, SLO 7, SLO 8
G6. Position UPRM as a leader through research, partnerships, and public engagement in sustainable development.	10. Value diversity	Demonstrate respect for human diversity...; Demonstrate respect for nature and the environment; Engage in Teamwork	PLO 8, PLO 1	SLO 9, SLO 10

Operational Assessment Plan					
Checkpoint	Primary indicators	Measure / instrument	Source & frequency	Benchmark (initial)	Responsible
Entry	Cohort profile; baseline skills	Admissions file review; diagnostic writing sample	Each fall cohort	Baseline established Year 1; used for growth comparisons	Program Coordinator; Admissions Committee
Development (end of Year 1)	Progress toward SLO 1–6, 10	Rubrics on signature assignments in ECON 5025, 6185, 6045 ; advisor reviews	Each spring	≥80% “meets or exceeds” on course SLO rubrics	Course instructors; Graduate Committee
Culmination (final year)	Mastery of integration, methods, application,	Capstone-equivalent products (policy memo/technical report/manuscript) in	Each spring	≥85% “meets or exceeds” on culminating rubric;	ECON 6250 instructor; external

Operational Assessment Plan					
Checkpoint	Primary indicators	Measure / instrument	Source & frequency	Benchmark (initial)	Responsible
	communication (SLO 1–10 as applicable)	ECON 6250 ; presentation to peers/stakeholders		≥75–80% on-time completion	reader (sample)
Program outcomes	Retention; time-to-degree; graduation; placement	Registrar data; exit survey; 6–12 month alumni survey; employer feedback	Annual	Retention ≥85%; 2-year completion 75–80%; placement/further study ≥70% in 12 months	Program Coordinator; Department Chair
Resources & capacity	Student-faculty ratio; course availability; services	Scheduling audit; SSR; facilities/library usage; student focus groups	Annual	Courses offered as planned; ratio supports advising; no unmet demand for required courses	Chair; Dean's Office liaison
Quality improvement	Closing-the-loop actions	Annual assessment report with actions & follow-up tracking	Annual (May–August)	All action items tracked to resolution or re-targeted	Graduate Committee; Department Assembly

The assessment of the M.A. in Sustainable Economic Development relies on a combination of direct and indirect evidence as well as indicators of overall program health. Direct evidence of student learning is collected through course-embedded rubrics applied in required courses such as ECON 5025, 6185, 6045, 6075, 6186, 6XXX, and 6250. These assessments are complemented by graded datasets and code appendices that permit reproducibility checks, oral presentations, and a variety of written products, including policy memoranda, technical reports, and manuscripts. Indirect evidence is obtained through student self-assessments, exit surveys, alumni and employer surveys and interviews, partner letters from applied projects, and external reader feedback on a sample of culminating products. At the program level, health is monitored through demand for admission, selectivity, retention, time-to-degree, graduation rates, course fill rates, student–faculty ratios, and the utilization of fiscal and physical resources.

Responsibility for the assessment process is clearly defined. The Program Coordinator leads the process, ensuring consistency and alignment with institutional requirements. Course instructors apply common rubrics and submit artifacts and summary data. The Graduate Committee reviews these data, analyzes patterns, and proposes improvement actions. Students, alumni, and external partners participate by providing feedback through surveys and interviews, while the Department Assembly reviews and approves recommendations for program adjustments.

The assessment cycle is structured around the academic year. In the fall semester, baseline diagnostics are collected, and rubrics are calibrated. In the spring, student artifacts are gathered, scored, and supplemented with exit survey data. During the summer, results are analyzed, reports are drafted, and action plans are developed. In early fall, the Department Assembly reviews the findings and authorizes implementation of changes. All assessment activities are documented through an annual report that compiles findings, actions taken, and evidence of impact. Artifacts and rubrics are archived securely to allow for longitudinal analysis and tracking of improvement over time.

The design of this assessment plan ensures sufficiency and continuous improvement. Each Student Learning Outcome is measured multiple times across courses and checkpoints, and every course in the curriculum has an evident role in advancing the program's learning objectives. Evidence collected through these processes informs practical improvements, including adjustments to curricular sequencing, assignment design, advising, staffing, and partnerships. The plan also functions as a tool to revisit the assumptions that motivated the program's creation—such as labor-market demand, student interest, and stakeholder needs—so that the curriculum remains both pertinent and responsive to the evolving context of Puerto Rico and comparable settings.

Five-Year Development Plan

This five-year development plan sets objectives, activities, timelines, resources, and evaluation procedures for the M.A. in Sustainable Economic Development. It provides for the preparation of the required annual implementation reports through the graduation of the first cohort, and for the subsequent biennial reports mandated by the Governing Board. It also contemplates compliance with reporting requirements of the Junta de Instituciones Postsecundarias de Puerto Rico (JIP), to be submitted through the Office of Academic Affairs.

Context and parameters. Enrollment is planned at 5 admissions per year, with ~85% retention, 75% on-time completion (two years), and a steady-state of ~10 active students after Year 3. The program requires 36 credits (21 core, 9 recommended electives, 6 free electives). No specialized professional accreditation applies to economics master's programs; accordingly, quality assurance will proceed through institutional effectiveness processes aligned with Middle States expectations and UPR/UPRM policies.

Year 1 – Launch and Baseline (AY 1)

- Objectives. Launch the curriculum with full fidelity; establish assessment baselines; reach target admissions; secure essential resources.
- Activities and timeline.
 - Recruitment & onboarding (Sep–Aug). Execute the annual cycle (outreach in Sep–Jan; applications due Feb; admits in Apr; onboarding in Aug) to enroll 5 students.
 - Information systems (Oct–Mar). Standardize use of UPRM's LMS for all courses; adopt a version-controlled workflow for data/code artifacts in methods courses to support reproducibility.

- Seminars & academic culture (Oct–Apr). Offer a Sustainable Development Colloquium (two talks per semester) drawing on internal and external speakers.
- Resources. Departmental operating funds; library allocation; existing classrooms and computing labs; faculty time for rubric calibration.
- Evaluation. Annual Implementation Report #1: admissions yield, baseline SLO evidence (course rubrics), resource status, student feedback, and corrective actions approved by the Department Assembly.

Year 2 – First Graduates and Evidence of Learning (AY 2)

- Objectives. Graduate the first cohort; stabilize operations; document student learning and program outcomes.
- Activities and timeline.
 - Instruction & advising (Aug–May). Offer all core courses on schedule; maintain advising to support two-year completion.
 - Culminating performance (Mar–May). Implement capstone-equivalent products in ECON 6250 Writing and Publishing in Economics; sample external reading for quality assurance.
 - Placement and alumni tracking (Apr–Dec). Conduct exit and 6–12-month alumni surveys; collect employer/partner feedback from applied projects.
 - Resources. Modest funds for invited speakers and external readers; continued library support.
 - Evaluation. Annual Implementation Report #2: retention, time-to-degree, graduation count (~6), SLO attainment, resource sufficiency, and documented “closing-the-loop” actions.

Year 3 – Consolidation and Mid-Cycle Review (AY 3)

- Objectives. Consolidate cohort pipeline; complete a mid-cycle review of assessment and operations; strengthen partnerships.
- Activities and timeline.
 - Assessment mid-cycle (Oct–Jan). Analyze three years of SLO data; verify coverage of all PLOs/SLOs across the curriculum; adjust assignment scaffolding or sequencing as needed (without altering approved credit structure).
 - Partnerships & MOUs (Sep–Apr). Formalize at least two collaboration agreements with public agencies, NGOs, or research centers for applied projects and student placements.
 - Faculty development (Oct–Apr). Offer methodological workshops on advanced data analysis, mixed methods, and research transparency; document faculty participation for annual evaluation.
 - Resources. Departmental travel/speaker lines; small methods workshop budget; partner in-kind support.

- Evaluation. Biennial Report (Years 1–2 results aggregated) + Annual Update: trends in learning, retention, graduation, placement; actions taken and outcomes; resource utilization.

Year 4 – Targeted Enhancement and External Visibility (AY 4)

- Objectives. Enhance student experience and external visibility; verify resource sustainability; plan any minor curricular refinements supported by evidence.
- Activities and timeline.
 - Student experience (Aug–May). Expand the Colloquium; pilot a student-led policy brief series hosted on a university platform; continue reproducible research practices in methods courses.
 - Resource review (Nov–Mar). Audit course availability, student–faculty ratios, and library/database usage; realign resources to demand (no new sections unless justified by enrollment).
 - Elective portfolio check (Sep–Dec). Using enrollment and SLO data, identify any elective gaps that could be filled by existing UPRM offerings; if a new elective is warranted, develop a proposal for departmental consideration (without changing the approved credit distribution).
 - Resources. Modest communications support for briefs; continued library and IT support.
 - Evaluation. Annual Implementation Report #4 with emphasis on student products, partner satisfaction, and resource alignment.

Year 5 – Comprehensive Self-Study and Next-Cycle Plan (AY 5)

- Objectives. Produce a five-year self-study; set targets for the next cycle; confirm long-run feasibility.
- Activities and timeline.
 - Self-study (Sep–Apr). Compile five-year evidence on admissions, retention, time-to-degree, graduation, placement, SLO attainment, resource sufficiency, and partnerships; benchmark against peer programs.
 - Planning (Jan–May). Update the assessment plan (benchmarks, instruments, schedules) based on longitudinal findings; set cohort targets and resource priorities for Years 6–10.
 - Reporting (May–Aug). Submit the required biennial report to the Governing Board and any JIP reports via the Office of Academic Affairs; archive artifacts and action logs.
 - Resources. Coordinator release time for self-study; administrative support for data pulls and reporting.
 - Evaluation. Governing Board and JIP feedback incorporated into the next-cycle plan and Department Assembly decisions.

Enrollment and budget planning are anchored in the program's steady-state model of five admissions per year. With expected retention rates of approximately eighty-five percent, this pattern produces a stable enrollment of about ten active students from the third year onward and an average of four graduates annually. The budget is scaled to the requirements of a small-cohort graduate program. Most instructional needs will be met with existing faculty, classrooms, and computing laboratories, while incremental investments will be directed to targeted library acquisitions, database subscriptions, and modest funds for invited speakers that support the program's academic culture.

The quality of the program will be sustained through robust assessment practices and continuous improvement. Since no specialized professional accreditation applies to economics master's programs, the program will demonstrate excellence by documenting student learning outcomes, ensuring reproducibility in research assignments, obtaining feedback from external readers on culminating projects, and benchmarking against comparable master's programs in development economics and sustainable development at internationally recognized universities.

The program also anticipates several challenges, particularly the variability of public funding, the intensive faculty workload required for small-cohort mentoring, and the financial needs of graduate students. These risks will be mitigated by maintaining the admissions cap, coordinating course offerings to maximize efficiency, providing strong academic advising, and leveraging partnerships with public agencies and NGOs to support applied projects and experiential learning opportunities.

Resource allocation decisions will follow clear priorities. Highest priority will be given to measures that directly impact student learning and timely degree completion, followed by compliance with assessment and reporting requirements, opportunities to leverage external partnerships or funding, and responses to documented demand such as enrollment trends or library usage data.

Graduation rates are expected to remain strong, with seventy-five to eighty percent of students completing the program on time within two years and nearly all students finishing within the five-year limit. Library resources will be strengthened through annual gap analyses conducted with subject librarians, ensuring that acquisitions are closely tied to the needs of required courses and student research.

Although the program does not require the creation of new courses beyond the approved structure, periodic reviews of electives will guide decisions about whether additional offerings are warranted. Any proposal for new electives will be based on enrollment data and student learning assessments, and will be developed within the normal governance process.

Faculty recruitment and development are also central to the plan. While the existing faculty is sufficient to launch and sustain the program, future hiring will be considered if retirements or enrollment patterns create specific gaps. Faculty will engage in ongoing development through workshops on research methods, transparency, and advanced data analysis, and annual evaluations will include contributions to teaching effectiveness, advising, research, and program assessment.

To enrich academic life, the program will establish a standing Sustainable Development Colloquium, offering at least two invited talks per semester, complemented by workshops on methods, writing, and research transparency. These activities will strengthen the program's intellectual environment and connect students with practitioners and scholars in the field.

The curriculum fully integrates the use of information systems. All courses will rely on the campus learning management system, while methods courses will employ version-controlled repositories for data

and code management. Library discovery tools, online databases, and research guides will be embedded in course syllabi, and students will be trained in data management and citation practices.

Finally, the program will undergo periodic assessment of both learning outcomes and overall effectiveness. Each Student Learning Outcome will be measured multiple times across the curriculum, and results will feed into continuous improvement of sequencing, assignments, and support structures. Periodic reviews will also revisit the assumptions that underpinned the program's creation—such as labor-market demand, student interest, and stakeholder needs—ensuring that the curriculum remains relevant and responsive to Puerto Rico's evolving development context.

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Appendices