

**Proposal for instructional design of associate and bachelor's degree academic programs at the Universidad Autónoma de Nayarit****Los académicos de la universidad pública estatal: rasgos en cifras de la Universidad Autónoma de Nayarit**

ZEA-VERDÍN, Aldo Asunción\*†, GUZMÁN-ÁLVAREZ, Alejandra, CASTELLÓN-LEPE, Alma Jazmín and GALVÁN-MEZA, Norma Liliana

*Universidad Autónoma de Nayarit, Unidad Académica del Norte del Estado de Nayarit, Nayarit, México.*

ID 1<sup>st</sup> Author: *Aldo Asunción, Zea-Verín* / **ORC ID:** 0000-0001-7728-3094, **CVU CONAHCYT ID:** 539518

ID 1<sup>st</sup> Co-author: *Alejandra, Guzmán-Álvarez* / **ORC ID:** 0000-0002-3570-4652, **CVU CONAHCYT ID:** 550398

ID 2<sup>nd</sup> Co-author: *Alma Jazmín, Castellón-Lepe* / **ORC ID:** 0000-0002-6152-9069, **CVU CONAHCYT ID:** 486207

ID 3<sup>rd</sup> Co-author: *Norma Liliana, Galván-Meza* / **ORC ID:** 0000-0003-1891-2625, **CVU CONAHCYT ID:** 171202

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**Abstract**

Higher Education Institutions respond to public policies and these in turn to an educational project that historically has been developed by academics, who are considered a pillar of the Higher Education System because they mainly perform teaching, research, and liaison functions, among others. This article presents a characterization of the teaching staff of the Universidad Autónoma de Nayarit, by analyzing figures on their professionalization, since it is organized by areas of knowledge and, therefore, by teachers and researchers who are experts in each discipline. In general terms, the data presented here, give a preamble to two of the recognitions or distinctions to which an academic can aspire: the SNI and the PRODEP; therefore, data will be shown to know the changes that have taken place and, above all, to conclude if academics have common traits or follow trends according to their discipline.

**Higher Education, Academics and Professionalization**

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**Resumen**

Las Instituciones de Educación Superior responden a políticas públicas y estas a su vez a un proyecto educativo que históricamente ha sido desarrollado por los académicos; mismos que son considerados como un pilar del Sistema de Educación Superior porque realizan principalmente funciones de docencia, investigación, vinculación, entre otras. En este artículo se presenta una caracterización de la planta docente de la Universidad Autónoma de Nayarit, a partir de analizar cifras sobre su profesionalización, ya que está organizada por áreas de conocimiento y, por ende, por docentes e investigadores expertos en cada disciplina. En términos generales, los datos que aquí se presentan, dan un preámbulo a dos de los reconocimientos o distinciones a las que un académico puede aspirar: el SNI y el PRODEP; por ello se mostrarán datos para conocer los cambios que se han tenido y, sobre todo, concluir si los académicos tienen rasgos en común o siguen tendencias de acuerdo con su disciplina.

**Educación superior, Docentes y Profesionalización**

† Researcher contributing as first author.

## Introduction

The Higher Education System (HES) is made up of various institutions and actors. Among the latter, academics are actors who play a key role in Higher Education Institutions (HEIs). Altbach (2000 and 2004) and Forest (2014) consider them to be an indispensable pillar for the subsistence of higher education by promoting the generation and transmission of knowledge.

In this sense, studying academics is of great interest because of the important role they play in higher education; because of their evolution from the traditional university to the present day; and because of the features that make them diverse, beyond the yoke of HEIs or SES.

Therefore, this paper identifies the traits of academics at the Autonomous University of Nayarit (UAN) from the elements that frame the academic profession: the establishment and the discipline (Clark, 1983 and Becher, 2001). That is to say, figures will be analysed considering the UAN as an establishment, and the areas of knowledge as disciplines.

### *More students, more professors*

Since the expansion of higher education in the world in the 1950s, academics have been considered as a professional group, with functions, activities, sanctions and rewards (Clark, 1989).

In Mexico, between the 1960s and 1980s, the expansion of the Higher Education System required the expansion of coverage with new universities and with it, an increase in academic staff positions throughout the country (Gil, et. al. 1994). According to Grediaga (1998), those who practice the academic profession transcended as a result of the arrival of new segments of students coming from a society in economic growth, in the process of mobility and with expectations of improvement through university studies.

This expansion also reached Nayarit. In 1965, the University of Nayarit was founded and in 1975 its autonomy was decreed, becoming, as it is known today, the Autonomous University of Nayarit (UAN). Its creation allowed the young people of Nayarit to have access to higher education, thus initiating a clear social change that brought cultural and economic progress.

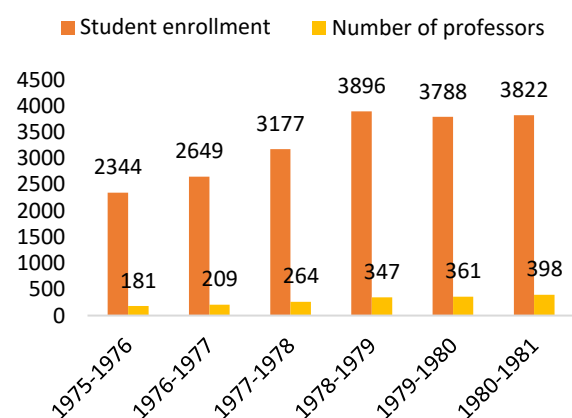
According to the historical data of the first 12 school years that the UAN worked, in the 1969-1970 school year there was an enrolment of 353 students and for the 1975-1976 school year, when university autonomy was decreed, the enrolment reached 2,344 students.

School year	Student enrolment
1969-1970	353
1970-1971	589
1971-1972	905
1972-1973	1547
1973-1974	1628
1974-1975	1984
1975-1976	2344
1976-1977	2649
1977-1978	3177
1978-1979	3896
1979-1980	3788
1980-1981	3822

**Table 1** Enrolment for the first twelve school years worked at UAN

Source: UAN (n.d.). *Manual of basic statistics 1969-1981*

From Table 1 it can be said that in six years the enrolment multiplied almost seven times and for the school year 1980-1981, the student population reached 3822. These figures show the expansion of SES. With this phenomenon, inevitably the academic staff also grew, although at a different rate than that of enrolment. The data are shown below:



**Graphic 1** Increase in student enrolment and number of teachers from 1975 to 1981

Source: UAN (n.d.). *Manual of basic statistics 1969-1981*

The growth of the academic staff must have taken place in a particular way in each area of knowledge and in each faculty -as the UAN was organised at that time-, probably due to the number of students, the nature of the disciplines, the characteristics of the curricula, among other aspects.

*The multifunctionality of professors*

Beyond the increase in numbers, the new academic professionals multiplied their academic tasks, eventually ceased to be only professors and began to carry out activities that diversified their functions within the HEIs and for the SES.

Within HEIs, according to Boyer, E. (1997), academic activity is defined as the balanced combination of teaching and research, the latter being of great importance at the higher education level. Therefore, four types of academic work are carried out in the present time: discovery, integration, application and teaching. In this sense, academics carry out these four functions, through which they generate, develop, produce and share, directly impacting on their work as teachers.

In order to consolidate these functions, the SES responds through programmes that encourage academics to be more productive and to carry out research, such as the Programme for the Professional Development of Teaching Staff (PRODEP) and the National System of Researchers (SNI).

The SNI was created in 1984 to recognise the work of academics who are dedicated to producing scientific knowledge and technology. For this purpose, a peer review process is carried out and the appointment of national researcher and economic incentives are granted (CONACYT, n.d.). Being a SNI is synonymous with quality and prestige of scientific contributions, which benefits academics and HEIs, as it contributes to the training of researchers with high-level scientific and technological knowledge, fundamental for cultural development and social welfare.

PRODEP seeks to professionalise Full-Time Lecturers (FTE), so that they can achieve research, teaching, technological development and innovation capacities with social responsibility, so that they can articulate and consolidate academic bodies and thus generate a new academic community capable of transforming their environment (DGESUI, n.d.). PRODEP has antecedents in the Programa Nacional de Superación de Personal Académico (SUPERA) created in 1994 and the Programa para el Mejoramiento del Profesorado (PROMEP) created in 1996.

Both programmes have been of great help for universities to promote research work and teaching productivity among their academics. This is of interest for the present work, which aims to find the particularities of each area of knowledge, starting from the question: Does academic work occur in the same way in all disciplines?

Based on this question, we will seek to identify the particularities through the SNI and PRODEP indicators at the UAN, since teachers exercise an academic profession, which is framed, according to Clark (1983), in two elements: the establishment and the discipline. These elements are two forces that pull teachers in opposite directions, the first delimits and regulates the fulfilment of tasks and functions, determined according to the purposes of the establishment; and the second segments and multiplies them into groups where cultures with particular standards and ways of undertaking certain functions are developed (Becher, 2001).

It is then argued that academics belong to the same establishment, such as the UAN, where those who are integrated there have a common purpose. But within this, academics are grouped into disciplines, which in the UAN are distinguished by areas of knowledge, where they are delimited and generate particular ways of exercising the academic profession. Academics generate habits, ways of living academic life and develop processes specific to their establishment, influenced by their discipline. They also exercise the academic profession, work with knowledge that is organised into disciplines, recognise each other and generate bonds of identity. Grediaga (2000) defines the academic profession as a legitimate grouping where its members have the main function of producing, transmitting and certifying knowledge.

**Methodology**

In order to identify some of the features of academics at the Autonomous University of Nayarit, from the establishment and from the discipline (Clark, 1983 and Becher, 2001), an analysis of figures is presented that allows us to find the particularities of each area of knowledge that are integrated in the UAN.

Returning to the ideas raised above, the UAN is the establishment, is a State Public University (UPE) with 54 years of antiquity, where a total of 17,000 students and 105 educational programs of higher education (Format 911, Institutional), organized in six areas of knowledge are attended:

1. Arts
2. Basic Sciences and Engineering
3. Biological-Agricultural and Fishery Sciences
4. Health Sciences
5. Economic-Administrative Sciences
6. Social Sciences and Humanities

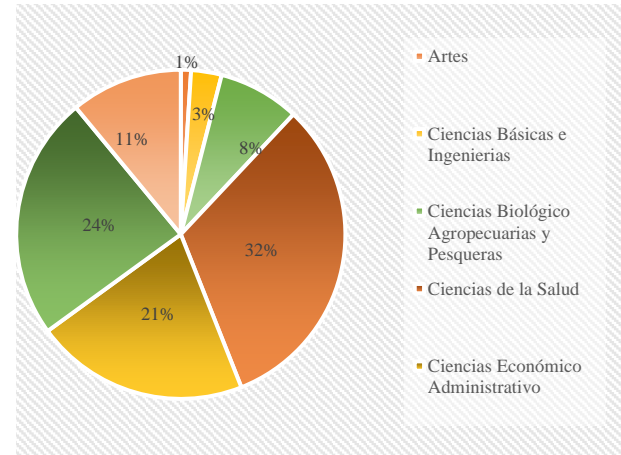
For this work, the areas of knowledge are identified as disciplines, so the analysis will give a first quantitative diagnosis, which will allow us to differentiate the particularities between them. Figures from 2014 to 2023 are taken as a reference.

The unit of analysis is the Full-Time Lecturers (PTC), since they are the academics with an appointment that accredits that their activities include teaching, student tutoring and knowledge generation and application (SEP, 2020), as well as those who have the possibility of participating in the calls for the PRODEP profile and the SNI, for the latter will be quantified those who have such a mention and meet the requirement of being full-time.

In this sense, the academics with PTC appointments in each of the six areas of knowledge will be analysed and the indicators derived are: number of academics by area of knowledge, number of academics who are Full Time Professors, number of PTC by academic degree, number of PTC with PRODEP profile and number of PTC members of the SNI (in this indicator, the total will be quantified and those who are not PTC will be distinguished).

*The particularities of UAN academics through figures*

By the year 2023, the UAN will have reached a student enrolment of 16,687 higher level students; however, the growth of enrolment is different in each area of knowledge, as it depends on the demand and the availability of spaces in each educational programme. The percentage distribution of enrolment is shown below.



**Graphic 2** Percentage distribution of student enrolment by area of knowledge in 2023  
*Source: UAN (2023). Statistical Yearbook 2022-2023.*

The three areas of knowledge with the highest number of students are Health Sciences, Social Sciences and Humanities, and Economic and Administrative Sciences. The three areas with the lowest demand are Biological, Agricultural and Fisheries Sciences, Basic Sciences and Engineering and Arts.

To serve the 16,687 students in the year 2023, the academic staff is made up of 1,341 academics, who work in the different areas of knowledge. Of these 878 are Full-Time Professors, as can be seen in the table below:

Area of knowledge	Year						
	2017	2018	2019	2020	2021	2022	2023
Arts	12	14	28	24	26	21	29
Basic Sciences and Engineering	77	80	92	81	81	78	77
Biological, Agricultural and Fisheries Sciences	138	147	146	143	135	117	125
Health Sciences	358	413	452	401	462	405	412
Economic-Administrative Sciences	269	291	305	276	277	228	267
Social Sciences and Humanities	266	272	297	294	289	289	298
Total	103	109	148	138	137	133	133
Total	1120	1217	1468	1357	1407	1271	1341

**Table 2** Number of academics by area of knowledge  
*Source: UAN (2017) Statistical Yearbook 2016-2017, UAN (2018) Statistical Yearbook 2017-2018, UAN (2019) Statistical Yearbook 2018-2019, UAN (2020) Statistical Yearbook 2019-2020, UAN (2021) Statistical Yearbook 2020-2021, UAN (2022) Statistical Yearbook 2021-2022, UAN (2023) Statistical Yearbook 2022-2023*

In proportion to enrolment, the number of academics has increased and is dispersed in a particular way by each area of knowledge: Health Sciences, Social Sciences and Humanities and Economic and Administrative Sciences are those with the highest number of academics; and Biological and Agricultural Sciences and Fisheries, Basic Sciences and Engineering and Arts are those with the lowest number.

In seven years, Health Sciences has increased its academic staff from 358 to 412 from 2017 to 2023, i.e. an increase of 54 academics. The area of Social Sciences and Humanities in 2017 consisted of 266 academics and increased to 298 in 2023, i.e. 32 academics were integrated.

The areas that have had slower growth are: Arts, which from 2017 to 2023 has only increased by 17 academics in its staff; and Basic Sciences and Engineering, which in 2017 had 77 members and whose maximum reached 92 in 2019 and in 2023 dropped again to 77.

Likewise, there are also areas of knowledge that show a decrease in the number of academics. Biological, Agricultural and Fisheries Sciences had 138 academics in 2017 and 125 in 2023. Economic and Administrative Sciences is a similar case: in 2017 it had 269 academics, in 2019 it reached a maximum of 305 and in 2023 it dropped to 267.

These variations in the number of academics are probably due to the fact that there are different types of contracts or that there are changes of assignment between administrative areas and academic units, such as those who are Part-Time Lecturers (PTP) and those who are Full-Time Lecturers (PTC), hence the indicators of the PTC will be considered as a reference.

- Full-Time Lecturers (FTE) by area of knowledge

PTCs are engaged in teaching, tutoring and knowledge generation and application activities in the areas related to their academic training. By 2023, of the 1,208 academics assigned to the UAN, 72.7% are PTC.

Area of knowledge	2017		2023	
	n	%	n	%
Arts	0	0.0	5	0.6
Basic Sciences and Engineering	55	6.8	60	6.8
Biological, Agricultural and Fisheries Sciences	163	20.3	175	20.0
Health Sciences	171	21.3	182	20.7
Economic-Administrative Sciences	243	30.2	267	30.4
Social Sciences and Humanities	172	21.4	189	21.5
Total	804	100.0	878	100.0

**Table 3** Percentage of PTC by area of knowledge

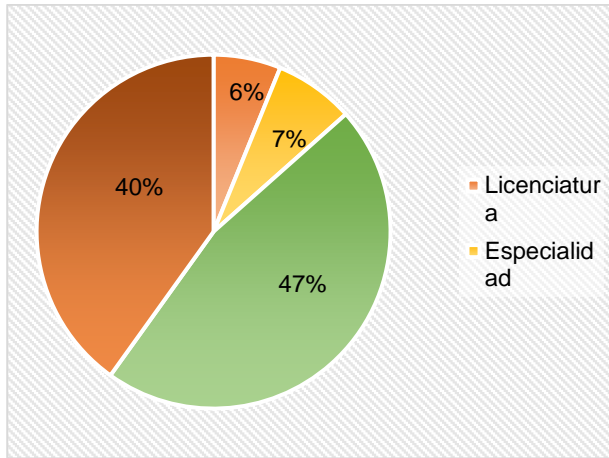
Source: UAN (2017) *Statistical Yearbook 2016-2017*, UAN (2023) *Statistical Yearbook 2022-2023*

From the data shown in the table, it is evident that in 2023, 30.4% of the PTC are assigned to the area of Economic-Administrative Sciences. In the areas of Biological-Agricultural and Fisheries Sciences, Health Sciences and Social Sciences and Humanities, the proportion is almost similar, around 21.0%. Basic and Engineering Sciences have only 6.8% and Arts 0.6%.

Here it can be seen that the proportions behave differently by PTC than by the total number of academics. For example, the area of Biological and Agricultural Sciences and Fisheries, which is among the areas with the lowest number of academics, has a percentage of PTC that is almost equal to that of Health Sciences and Social Sciences and Humanities, which are areas of knowledge with the highest number of students and academics.

- The academic degree of the academic staff in each area of knowledge

The academic degree refers to the higher level degrees obtained by the PTC, in this sense, the number of professors with bachelor's, master's and doctorate degrees is analysed, as shown in the graph below:



**Graphic 3** Percentage distribution of PTC by academic degree in the year 2023

Source: UAN (2023). Statistical yearbook 2022-2023.

Of the 878 PTC, the academic degree with the greatest predominance is the master's degree with 47.0%, followed by the doctorate with 40.0%, then the speciality with 7.0% and finally the bachelor's degree with 6.0%.

Academic degree	Arts		Basic Sciences and Engineering		Biological, Agricultural and Fisheries Sciences		Health Sciences		Economic-Administrative Sciences		Social Sciences and Humanities	
	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023
Doctorate	1	1	1	1	1	1	1	1	1	1	1	1
Master's	1	1	1	1	1	1	1	1	1	1	1	1
Speciality	1	1	1	1	1	1	1	1	1	1	1	1
Bachelor's	1	1	1	1	1	1	1	1	1	1	1	1
Other	1	1	1	1	1	1	1	1	1	1	1	1

**Table 4** CTP by academic degree by area of knowledge, comparison 2017 and 2023

Source: UAN (2017) Statistical Yearbook 2016-2017, UAN (2023) Statistical Yearbook 2022-2023

In all areas of knowledge there are PTC with a bachelor's degree, however, the table shows how the number has decreased in seven years. The specialisation degree is more recurrent in Health Sciences. With regard to master's and doctoral degrees, the areas that stand out are Biological, Agricultural and Fisheries Sciences, Economic and Administrative Sciences, and Social Sciences and Humanities.

*Participation of academics in PRODEP and SNI*

The PRODEP is a federal programme that encourages professors to articulate research and teaching activities, technology development and innovation, and collegiate work through academic bodies, being responsible for the social environment (SEP, 2020). Table 5 shows these indicators:

Area of knowledge	Year	
	2017	2023
Arts	0	0
Basic Sciences and Engineering	26	26
Biological, Agricultural and Fisheries Sciences	102	98
Health Sciences	80	68
Economic-Administrative Sciences	130	126
Social Sciences and Humanities	103	95
Total	441	413

**Table 5** Number of PTC with PRODEP profile, by area of knowledge, comparison year 2017 and year 2023

Source: UAN (2017) Statistical yearbook 2016-2017, UAN (2023) Statistical yearbook 2022-2023

In 2023, 47.0% of the total of 878 PTC are PRODEP profile. The Economic-Administrative Sciences area is the one with the highest number of academics with this profile, followed by Biological-Agricultural and Fisheries Sciences, and Social Sciences and Humanities. Finally, the areas with the fewest academics with a PRODEP profile are: Health Sciences and Basic Sciences and Engineering. Arts do not have any professors benefiting from the programme.

Regarding the SNI, it is a programme that was created for academic researchers, it remunerates scientific work and recognises the importance of research. The rules established by the system go beyond the institution. See the following table:

Area of knowledge	Year	
	2017	2023
Arts	0	0
Basic Sciences and Engineering	7	8
Biological, Agricultural and Fisheries Sciences	51	73
Health Sciences	3	18
Economic-Administrative Sciences	11	15
Social Sciences and Humanities	28	38
Total	100	152

**Table 6** Number of PTC registered in the SNI, by area of knowledge, comparison between 2017 and 2023

Source: UAN (2017) Statistical yearbook 2016-2017, UAN (2023) Statistical yearbook 2022-2023

Compared to PRODEP, the proportion of PTCs registered in the SNI changes by area of knowledge. Biological, Agricultural and Fisheries Sciences leads the indicator, followed by Social Sciences and Humanities. These two areas are followed by Health Sciences, Economic-Administrative Sciences and Basic and Engineering Sciences.

Economic and Administrative Sciences went from leading the PRODEP indicator to being the area with the second lowest number of PTC academics in the SNI.

## Conclusions

The academic profession has distinguished itself by being made up of groups of professionals in different disciplines, i.e. engineers, doctors, lawyers, pedagogues, biologists, chemists, among many others, who converge in the same higher education institution; where, in addition to sharing a mission, a vision and objectives, they also generate their own ways of proceeding. In the case of the UAN, the figures were analysed by area of knowledge and for the present conclusion the most recent year, 2023, is considered.

Arts is the area of knowledge with the smallest number of students, with 1% of the enrolment. The academics who attend them have a maximum degree and there are none who participate in the PRODEP or SNI profile.

Enrolment in the area of Basic Sciences and Engineering represents 3% of the total enrolment in higher education. Of the 77 academics working in this area, 60 are PTC, of which 15.0% have a bachelor's degree, 33.3% have a master's degree and 51.6% have a doctorate. Of the 60 PTC 26 are PRODEP profile and 8 are SNI.

Biological, Agricultural and Fisheries Sciences has 8% of the student enrolment. Of the total number of academics, 175 are PTC, of which by academic degree 2.3% have a bachelor's degree, 1.7% have a speciality, 35.4% have a master's degree and 60.6% have a doctorate.

Health Sciences is the area of knowledge with the highest demand and student enrolment, representing 32% of the total. As of 2023, 412 professors have joined the academic staff, of which 182 are PTC. The academic degree of these PTC is distributed as follows: 31.9% have a speciality, 56.0% have a master's degree and 12.1% studied a doctorate. In this area, 68 of the total number of PTC have a PRODEP profile and 18 are SNI.

In Economic-Administrative Sciences, 21% of the University's higher education enrolment is catered for. There are 267 academics participating, of which 100% are PTC. By academic degree, more than half of the PTC have a master's degree (51.7%), 37.1% have a doctorate, 10.5% have a bachelor's degree and 0.8% have a speciality. Regarding participation in PRODEP, in 2023 there were 126 with this profile and 15 academics with the SNI distinction.

As for Social Sciences and Humanities, 24% of the enrolment is formed in this Academic Unit and it has a staff of 298 academics. Of the total number of academics in this area, 189 are PTC, i.e. 63.4%. By academic degree, these PTC have a doctorate (49.2%), followed by a master's degree (45.0%), a bachelor's degree (5.3%), and finally a speciality (0.5%). In this area there are 95 academics with PRODEP profile and 38 are recognised by the SNI.

Presenting the numbers of academics allows us to see from the surface the particularities of each area of knowledge and whether academics have traits in common or follow trends according to their discipline, as Becher (2001) mentions, they develop cultures. The results are a milestone that leads to deeper analysis in various dimensions: in the sense of educational and institutional policies, on the diversity of academic roles, the characteristics of choices for teacher education and qualification, gender differences, among others.

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