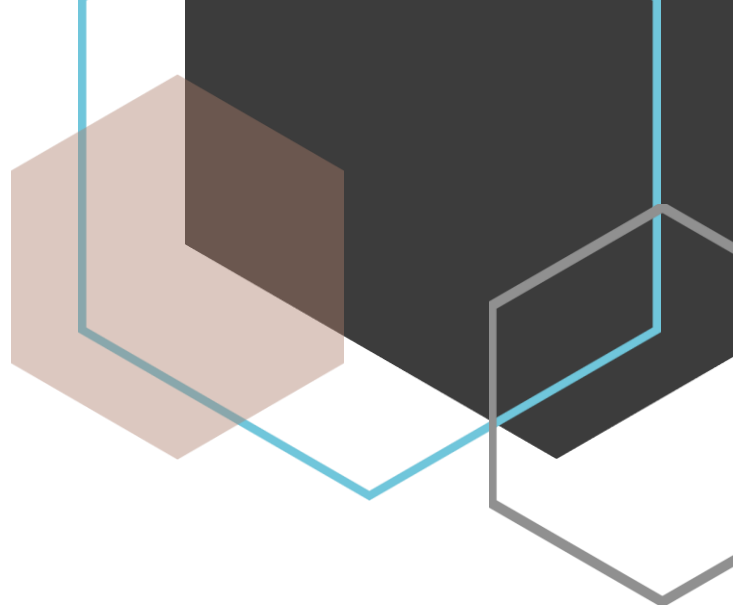




Co-funded by the
Erasmus+ Programme
of the European Union



UNIVERSITY PRIORITY SETTING REPORT FOR THE PROVISION OF RESEARCH AND EDUCATION

IFUGAO STATE UNIVERSITY, PHILIPPINES

Integrating Talent Development into Innovation Ecosystems in Higher Education

586227-EPP-1-2017-1-BG-EPP

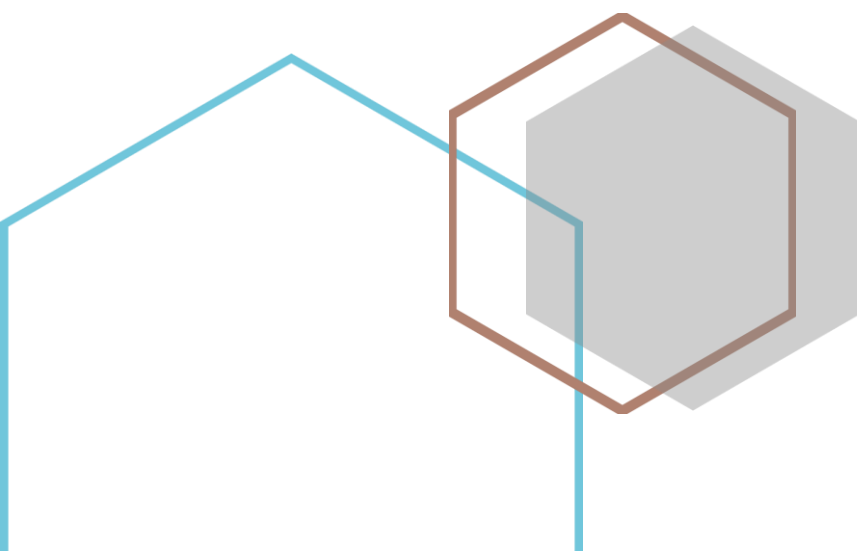




Table of Contents

National priorities for research, innovation and education	2
Ifugao State University	11
Research and Development, Extension and Training (RDET) Priorities	16
Agribusiness and Entrepreneurial Management	26
Summary	31

This report seeks to map priority areas for research and education provision at the University. It aims to provide a vision on how the institution can develop further to become innovation and skills provider for its region and locality, and how students and graduates should be involved in this process.

Authors

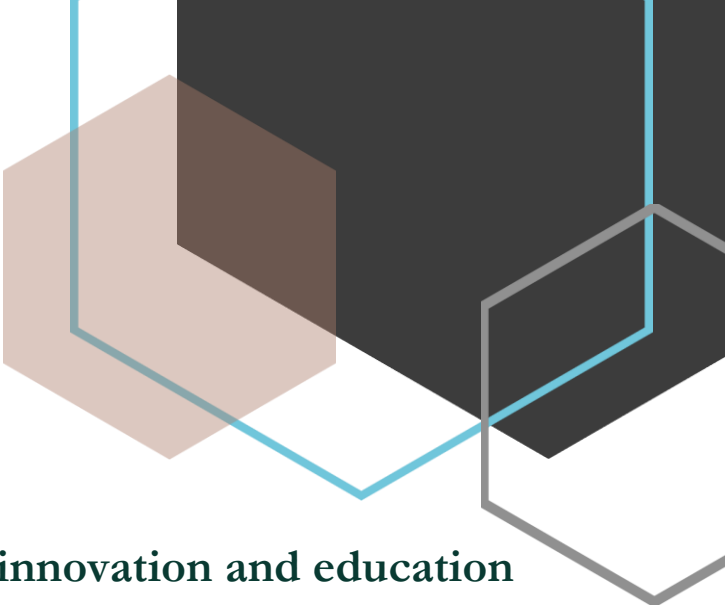
Serafin L. Ngohayon , Vignette R. Tejada

Ifugao State University

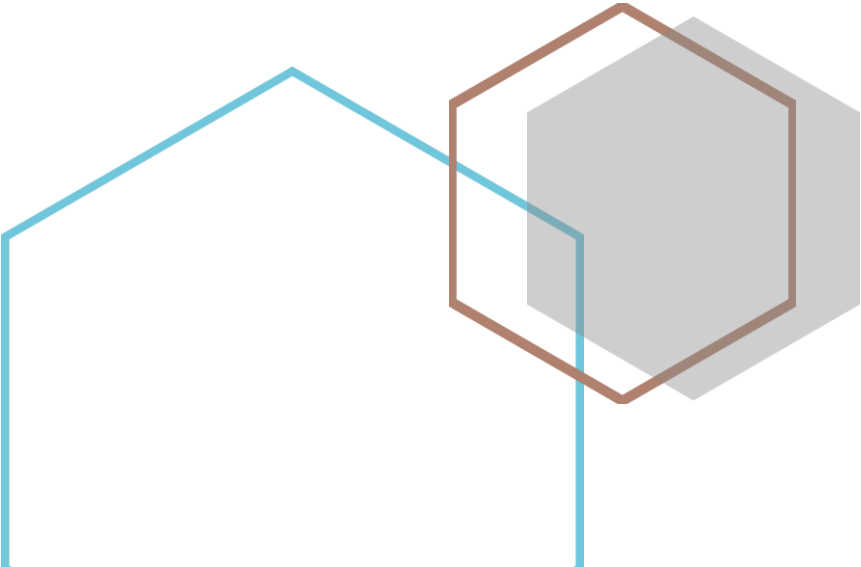


Co-funded by the
Erasmus+ Programme
of the European Union

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



National priorities for research, innovation and education



PHILIPPINE
INCLUSIVE
FILIPINNOVATION
AND
ENTREPRENEURSHIP
ROADMAP

Current policy priorities in the education and research sector in the Philippines recommend effective innovation strategies and policies to make industries more innovative and globally competitive, to provide solutions to societal and industry issues and challenges, to support economic transformation and leapfrog to industrialization. The different elements of the ecosystem include universities and research institutions, companies, government innovation agencies, funding and finance sources, services providers, regulatory framework and infrastructure, culture, markets, education and training, support mechanisms, and human capital and workforce. University policies are expected to maximize the contribution of universities to innovation at national level and to optimize the interaction between these elements.

The Philippines has a low level of innovation, ranking 73rd out of 126 economies in the 2018 Global Innovation Index (GII), Switzerland being the top. The seven GII areas are business sophistication, knowledge and technology outputs, infrastructure, human capital and research, institutions and market sophistication. The following is the list of the strengths and weaknesses of the country in terms of innovation based on the annual report of Cornell University, INSEAD and the World Intellectual Property Organization (WIPO):

Strengths:

- Market sophistication & business sophistication which include knowledge absorption, firms offering formal training & research talent in business enterprise, trade, competition & market scale and market capitalization
- Science & engineering graduates
- Knowledge diffusion
- Productivity growth
- High-tech manufacturing
- ICT service exports

Weaknesses:

- Institutions, as shown in terms of political stability & safety
- Ease of starting a business
- Human capital & research index as determined by expenditure on education, pupil-teacher ratio, tertiary inbound mobility, global research & development expenditure of companies
- Ease of getting credit, ease of protecting minority investors, credit & investment, patents by origin, as well as scientific & technical articles

Like any other country, the Philippines is still facing a major challenge in bridging the gaps that prevent it from achieving high, yet inclusive, growth. Many of the reasons as to why the Philippines are lagging

behind other Asian countries like Singapore, Japan and Korea are to be found in current state of research and education. The assessment conducted by the DTI in collaboration with USAID-STRIDE lists the key such reasons:

- The Philippines invest far less than other countries in activities that drive innovation. This is visible in the national R&D budget that has not even reached 0.1% of GDP.
- The country lacks the manpower needed to support innovation and commercialization activities as shown by the low availability of scientists and engineers.
- The total R&D personnel in the country is very small which only proves that the base support for innovation and commercialization remains comparatively weak.
- The country does not fare well in terms of research and productivity. The ratio of scientific and technical publications relative to GDP is only around 1.6.
- The rate of patent application is low. This indicator implies that policies and incentives for research productivity must be improved to promote a balance between the incentives for basic and applied research.
- The collaboration between academe and industry in the country remains weak and their relationship is more characterized by competition.
- Research and education institutions are unable to respond timely to the commercialization intent of some businesses because of onerous/complex processes and lack of mechanisms or preparedness to deal with such processes. Many institutions do not even consider commercialization to be part of their core mission because their performance is evaluated based on the number of research publications. There is lack of personnel capable of dealing with technology transfer and financial constraints. These factors reduce research productivity and slow down commercialization.
- There is limited awareness of and clarity about government policies and programs for R&D.

The aforementioned inefficiencies must be addressed in order to achieve the overall vision of creating an inclusive innovation and entrepreneurship ecosystem. Government policies and programs are crucial to boost the country's level of performance. Significant strides have been made and the following strategies emerge as national priorities:

(1) **Strong government-academe-industry linkages** - This triple helix of government, academe and industry collaboration serves the pursuit of knowledge production, designing solutions (innovation), as well as value-creation and commercialization.

(2) **Human capital development towards innovation and entrepreneurship** – it is necessary to design integrative programs and curricula that can effectively produce Filipino lifelong learners who possess the knowledge, competencies, values, and attitudes to make them succeed in the world of work, develop innovative solutions to key societal issues, or transform these innovations into economic goods.

(3) **Enabling policy environment to accelerate innovation and entrepreneurship**

(4) **Entrepreneurship culture and support programs for MSMEs** - There ought to be synergistic programs and activities at the basic, tertiary and higher education levels to support appreciation of entrepreneurship, acquisition of entrepreneurial, and 21st century/lifelong learning skills, and promotion of venture promotion as a career opportunity.

(5) **Funding and financing for innovation and entrepreneurship** - The appropriate form of funding/financing for a particular stage of innovative/entrepreneurial ventures (seed, startup, early-stage, expansion) should be made accessible and interventions to make these available will be carried out.

(6) **Growth and development of industry clusters** - As common points for convergence, Regional Inclusive Innovation Centers (RICCs) shall be created and tasked with galvanizing a shared direction among stakeholders and finding synergies between regional programs and projects in support of innovation and entrepreneurship.

PHILIPPINE INCLUSIVE INNOVATION INDUSTRIAL STRATEGY (I3S)

There is an inclusive and sustainable innovation-led industrial policy for poverty reduction and economic transformation formulated by the Department of Trade and Industry (DTI). The overall goals are (a) *creation of an innovation and entrepreneurship ecosystem*, (b) *removing obstacles to growth to build industry clusters*, and (c) *strengthening domestic supply and value chains to deepen our participation in global and regional value chains and networks*.

i3S has three major pillars:

- **New Industries and Clusters:** supply/value chain gaps, domestic and export market, trade and investment promotion, incentives
- **Human Resource Development:** upgrading education curricula, skills training programs, improving digital skills
- **Innovation and Entrepreneurship:** government-academe-industry linkage, market oriented research, R & D centers, innovation incentives, shared facilities and support for startups, regional inclusive innovation hubs
- **MSMEs and Startup Development:** access to finance,

markets, skilled labor, technology; 7Ms: mindset, mastery, mentoring, money, machine, market, models

- **Ease of Doing Business:** simplification of processes, automation, power, logistics, infrastructure

The priorities are focused on industry development and linkage of activities specifically through the servicification of manufacturing, which connects services activities like design, R&D, engineering, and after-sales with manufacturing. The most crucial factors for industry development are close coordination among government agencies and effective policy implementation.

i3S Top 12 priorities:

- Electrical & Electronics
- Auto & Auto Parts
- Aerospace Parts
- IT BPM, E-Commerce
- Tool & Die, Iron & Steel
- Chemicals
- Agri-business
- Shipbuilding, RORO
- Furniture, Garments, Creative
- Transport, Logistics, Construction, Tourism
- Innovation, R & D
- Climate Change, Parts & Components

In Cordillera Administrative Region (CAR) where Ifugao is one of its provinces, the regional industry priorities are **coffee, processed vegetables, aerospace, electronics, tourism**.

PHILIPPINES INNOVATION ACT

The Philippines Innovation Act is a pending legislation in the Philippine Senate known as Senate Bill No. 1355 filed by Senators Legarda and Gatchalian.

It is an Act adopting innovation as vital component of the country's development policies to drive inclusive development, promote growth and national competitiveness of micro, small and medium enterprises, appropriating funds, thereof. The following are the specific objectives of the Act:

- Promote a culture of strategic planning and innovation to encourage creative thinking and knowledge creation and dissemination towards expanding and maintaining economic competitiveness

- Improve innovation governance in the country and compel the adoption of a long-term vision and focused priorities for innovation as driver for sustainable and inclusive growth
- Ensure effective coordination and eliminate fragmentation of innovation policies and programs at all levels
- Strengthen the position of MSMEs in the innovation system
- Remove obstacles to innovation by suppressing bureaucratic hurdles, and adapting the regulatory framework to support the creation of and diffusion of new knowledge, products, and processes
- Encourage entrepreneurial attitude in order to stimulate growth ambitions in businesses, especially among MSMEs
- Explore, promote and protect the potentials for innovation of traditional knowledge, traditional cultural expressions and genetic resources
- Strengthen and deepen interactions and partnerships among different actors from the public and private sector, academe, MSMEs, research & development institutions and communities towards promoting inclusive growth and improving the quality of life through innovation.

It also includes the creation of a National Innovation Council (NIC) which will be responsible in developing the country's innovation goals, priorities, and long-term national strategy. The President of the Philippines shall sit as a chairperson.

It must be noted however that the bill remains pending and needs to be passed by the Philippine Legislature before it becomes a law.

NATIONAL PRIORITIES FOR RESEARCH AND DEVELOPMENT

The Harmonized R & D Agenda (HNRDA) 2017-2022 is made by the Department of Science and Technology (DOST) in line with its mandate of providing central direction, leadership and coordination of the scientific and technological efforts in the country. It is aligned with AmBisyon Natin 2040, and is founded on the three pillars of Malasakit (enhancing the social fabric), Pagbabago (reducing the inequality) and Kaunlaran (increasing potential growth) that forms the foundation for more inclusive growth, a high-trust and resilient society and a globally competitive knowledge economy.

The HNRDA is divided into 5 sectors and its agenda was formulated by the National Research Council of the Philippines (NRCP), Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD), Philippine Council for Health Research and Development (PCHRD), Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), Philippine Institute of Volcanology and Seismology (PHIVOLCS), and Philippine Atmospheric, Geophysical and Astronomical Services



Administration (PAGASA) in cooperation with stakeholders in the respective sectors.

1. National Integrated Basic Research Agenda (NIBRA)

- Water Security
- Food and Nutrition Security
- Health Sufficiency
- Clean Energy
- Sustainable Communities
- Inclusive Nation-Building

2. Health

- Drug Discovery and Development
- Diagnostics
- Functional Foods
- Hospital Equipment and Biomedical Devices
- Information and Communication Technology for Health
- Dengue
- Nutrition and Food Safety
- Disaster Risk Reduction - Health
- Climate Change Adaptation - Health
- Omic Technologies for Health

3. Agriculture, Aquatic and Natural Resources Sector (AANR)

- Agriculture (crops and livestock)
- Fisheries and Aquaculture
- Forestry
- Natural Resources and Environment
- Technology Transfer
- Socio-economics and Policy Research

4. Industry, Energy and Emerging Technology

- Food and Nutrition Security
- Countryside Development
- Competitive Industries
- Delivery of Social Services
- Intelligent Transportation Solutions
- Renewable Energy and Energy Storage Solutions

- Human Security

5. Disaster Risk Reduction and Climate Change Adaptation (DRR CCA)

- Observation and Monitoring Networks
- Technology Development and Application for Monitoring
- Modelling and Simulation for Improvement of Monitoring and Forecasting
- Hazards, Vulnerability and Risk Assessment
- Warning and Risk Communication
- Technology Development and application for Climate Change Mitigation and Adaptation
- Technology Development and Application for Disaster Risk Management
- Policy Research

S & T FACILITIES:

- Technology Business Incubators
- Electronics Product Development Center
- Advanced Device and Materials Testing Laboratory
- High Performance Computing
- Facilities (CoARE)
- LiDAR Facility
- Philippine Genome Center
- Die and Mold Solutions Center
- Automotive Testing Facility
- Gear Making and Testing Facility
- Nanotechnology Center (ITDI)
- Food Innovation Center
- Tuklas Lunas Centers
- Philippine Earth Data Resource
- Observation (PEDRO) Center
- Radiation Processing Facilities
- Innovation Center for Yarns and Textiles
- Regional Standards and Testing Laboratories
- Testing and Metrology Facilities

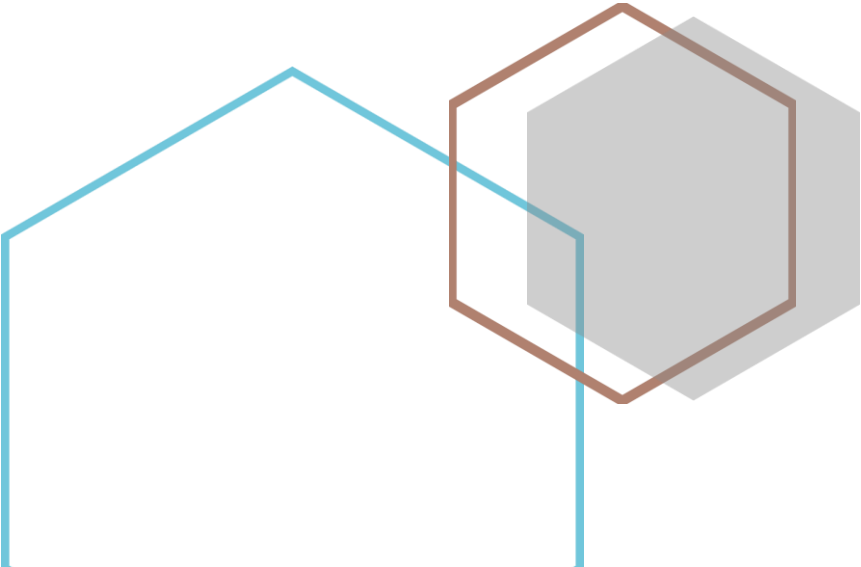
DOST PROGRAMS AND PROJECTS:

- **Small Enterprise Technology Upgrading Program (SETUP)** - enhances the competitiveness of micro, small and medium enterprises (MSMEs) through technological interventions, and provides a range of S & T solutions.
- **OneLab.ph** - integrates DOST and non-DOST laboratories all over the country into a network that provides easy access to testing and calibration services.
- **OneStore** - helps MSMEs widen the scope of their market and increase their market opportunities.
- **OneExpert** - is an interactive web-based nationwide pool of S & T experts intended to provide technical advice and consultancy services to Filipinos anywhere they are in the Philippines, including private enterprises.

The government agencies have been making great strides to produce globally-competitive Filipinos, but we still have a long road ahead to reach developed status and a high rank worldwide. Nevertheless, the current administration concerns on strengthening the innovation, entrepreneurship, research and education capacity of the country through its programs, policies and projects. In the second part, we tackle the background and priorities of Ifugao State University, colloquially called as IFSU.



Ifugao State University



PROFILE OF THE UNIVERSITY

Ifugao State University (IFSU) is the premier institution of higher learning in the Province of Ifugao that caters to about 5,000 students in undergraduate, graduate and post graduate levels. It has six campuses, the main campus is in Lamut while the external campuses are located in Lagawe, Potia (Alfonso Lista), Tinoc, Aguinaldo and Hapao (Hungduan). Colleges are established in line with the Campus' identified strength and foci/nitch i.e. Main - Academic, Potia - Agriculture & Forestry, Home Sciences & Industry; Lagawe - Engineering & Industrial Technology and Business Management.

The University has a vision to become an Academic Centers of Excellence (ACE), adopting 5 major goals to 1) pursue excellence in instruction, 2) pursue excellence in research and development, 3) pursue excellence in extension and training, 4) pursue excellence in resource generation and 5) pursue excellence in administration and governance. It has a mission to provide quality instruction, research and extension services to bring about educated and morally upright individuals, endowed with professional and entrepreneurial skills, who will take the lead in enhancing sustainable development towards improved quality life.

PERFORMANCE PLEDGE

The officials and employees of the University pledge and commit themselves to render service that is characterized by:

- I** Integrity: Character of unblemished and unquestionable integrity
- F** Faith: Do things guided by strong faith in God and in each other
- S** Service: To serve and not to be served
- U** Unity: United in deeds and in action

STRATEGIC OBJECTIVES

To achieve its mission and realize its vision, the university is to pursue the following strategic objectives:

- To upgrade the quality of Instruction.
- To upgrade the quality of Instruction-support services.
- To capacitate human resources in R&D.
- To intensify the conduct of research in line with specialization & mandate of the university.
- To increase visibility of research outputs in the local, national and international arena.
- To generate, package and patent relevant technologies/systems/programs.
- To package and transfer knowledge and technologies responsive to the needs of target communities.
- To intensify monitoring, evaluation and impact assessment of extension programs conducted for technical advisory and strategic planning.
- To intensify linkages and networking with other institution in local, regional, national and international levels.
- To capacitate human resources for extension and training.
- To enhance Income Generating Projects.
- To maximize the utilization of land for income generation.
- To enhance and improve operation and administration of IGPs.
- To provide employment opportunities to students and graduates of IFSU and the community.
- To utilize IGP projects for the conduct of the employees' and students' researches.
- To utilize IGP projects for the conduct of the extension services of the university.
- To continue modernizing offices and processes.
- To continue improving administrative proficiency and financial management.
- To continue adhering to good governance conditions.

DEGREE OF AUTONOMY

IFSU was established by virtue of Republic Act No. 9720 signed by Her Excellency, President Gloria Macapagal-Arroyo on October 14, 2009. Thus, there is no better, firmer and more primary legal basis for its operation and management than the provisions of the university charter itself. Section 7 of the aforementioned law states that the University shall enjoy academic freedom and institutional autonomy, pursuant to



ACCREDITATION

paragraph 2, Section 5 of Article XIV of the Constitution of the Republic of the Philippines.

The Board of Regents (BOR) as the governing board of the University promulgates policies in accordance with the declared State policies on education and other pertinent provisions of the Philippine Constitution on education, agriculture, science and technology, as well as policies, standards and thrusts of the CHED under Republic Act 7722, otherwise known as the ‘Higher Education Act of 1994’. The BOR also approves the University Plans, Programs, Projects and corresponding funding requirement to be implemented by the University headed by the University President.

Accreditation is voluntary in Philippine Higher Education. However, it is considered important as it ensures the quality of education a student receives in an institution. Thus, the IFSU also aggressively pursue accreditation of its academic programs. The curricular programs offered in the University are accredited by Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP). Mostly, the accreditation status of programs are Level II and Level III. Furthermore, IFSU is currently working on obtaining the International Organization for Standardization (ISO) Certification.

INTERNATIONAL LINKAGES AND PARTNERS

The University aggressively links itself with international and local partners to advance its development direction. IFSU sends its students abroad via exchange programs and, at the same time, caters to foreign students and extends assistance in the procurement of study permits, student visa and extension of stay. International students enrolled at IFSU are accommodated as well and assisted by the International Relation Office (IRO). Orientation on the rules and regulations of the University is given periodically. In fact, IFSU is accredited/authorized by the Bureau of Immigration of the Philippines to accept foreign students.

International partners/linkages include:

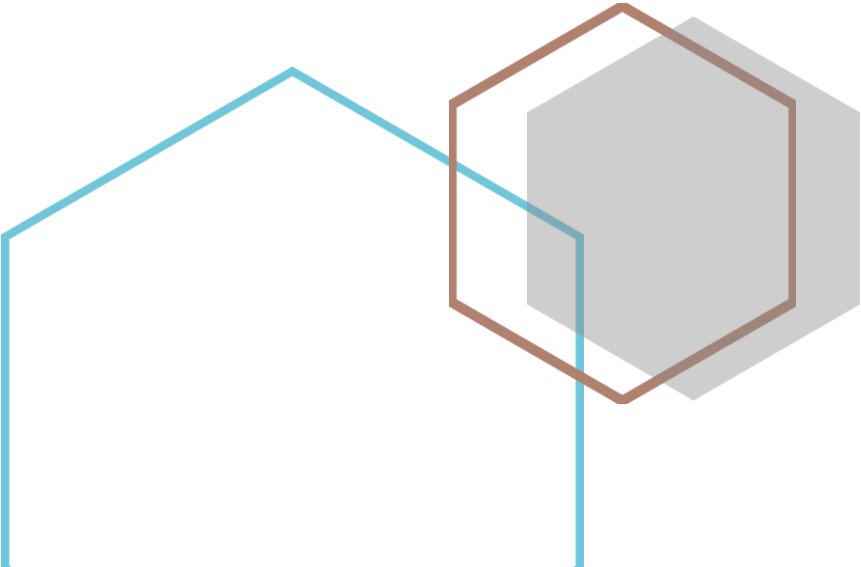
- University of National & World Economy, Bulgaria
- KOBE Gakuin University, Japan
- KOBE International University, Japan
- SOKA International University, Tokyo, Japan
- United Nations University, Tokyo, Japan
- International Tropical Timber Organization, Japan
- Japan International Cooperation Agency (JICA)
- Japan Overseas Cooperation Volunteers (JOCV)
- International Center for Agricultural Studies—
“Agrostudies”, Israel

- Malaysia University of Science and Technology, Malaysia
- EDS Business School, Penang, Malaysia
- Rajamangala University of Technology Tanyaburi/Tak, Thailand
- Chulalongkorn University, Faculty of Education, Thailand
- Universitas Ahmad Dahlan, Indonesia
- Singapore Polytechnic, Singapore
- Euro College, Macedonia
- Wroclaw University of Technology, Republic of Poland
- Guizhou Normal University, China
- Thai Nguyen University, Vietnam
- International Crops Research Institute for Semi-Arid Tropics, India
- Calcutta University, India
- Southeast Asian Network for Agroforestry Education (SEANAFE)
- Food and Agriculture Organization (FAO)
- Australian Youth Ambassador for Development (AYAD), Australia.





**Research and Development, Extension and Training
(RDET) Priorities**



RESEARCH COMPONENT PRIORITIES

The IFSU Research, Development, Extension and Training is committed to deliver research, extension, and training programs to improve instruction and empower communities to foster development for better quality of life among the people. This is being done by working closely with the Local Government Units and other government agencies which are directly in touch with the local people.

Planning starts with the identification of provincial, regional as well as national priority RDET agenda. The identification of the university RDET agenda is based on LGU, Commission on Higher Education (CHED), Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), Department of Agriculture (DA), Highland Agriculture and Resources Research and Development Consortium (HARRDEC), Department of Environment and Natural Resources (DENR), Department of Science and Technology (DOST) research, and development, extension and training thrusts.

Program is composed of four interrelated and inter-development sub-programs namely: a) Research and Development are focused on countryside development; b) Extension and Linkages are designed toward the dissemination of matured technologies developed by its programs to its end users; c) Training and Communications are geared toward the formulation of training designs, communications, reproduction and printing of Information and Technology (IT) materials and the conduct of trainings that would hasten the utilization of developed technologies from research programs to end users; d) RDET-Related Special Projects are intended to highlight enterprises adapting technologies developed from researches.

The program components of research include the basic and applied researches on the following priorities:

- Sustainable Crop Production
- Sustainable Animal Production
- Inland Aquaculture/Fisheries
- Support to Agriculture
- Floral and Faunal Diversity
- Reforestation/Afforestation Conservation Farming and Forest Protection
- Engineering and Physical Science, Industrial Technology
- Small Scale Industry Development
- Education, Languages, Social Sciences and the Humanities
- Peace and Order, Risk Reduction



EXTENSION COMPONENTS

- Climate Change Mitigation and Adaptation
- Health Care and Medicine, Alternative Medicine, Food Nutrition and Safety, Product Development
- Gender and Development Areas
- Other areas needed by the community and those that caters to the interest of the students and faculty members.

Technology Transfer and Community Service

- Establishment of Demo-pilot farms
- Transfer of developed/mature technology through IEC materials
- Delivery of services to the community through:
 - Animal health services
 - Vaccination of animals
 - Castration of dogs & pigs
 - Crop and animal dispersal
 - Technical assistance and others

Development for Entrepreneurship

- Income Generation Products
- Hands-on practices

Linkages

- Inter-agency and other multi-sectoral consultations/consortia
- Functional Farmers Information and Technology Services (FITS)

TRAINING COMPONENTS

Diffusion of technology

- Pre-training of planning stage
 - Processing and submission of proposals and training design
 - Develop training design
 - Identify training management team
 - Conduct training for technology diffusion
- Training implementation phase
 - Establish training-learning situations through appropriate methods

SPECIAL PROJECT COMPONENTS

BUILDINGS, LABORATORIES AND DEMONSTRATION FARMS

- Accelerate technology diffusion
- Improve training personnel
 - Post Training Phase
- Evaluate success of training for subsequent trainings
- Follow up trainees to assess impact of conducted trainings

Publication

- Acceptance and editing of manuscripts
- Printing and publication of packaged technologies
- Publication/dissemination
 - Journals
 - RDET Newsletter
 - Brochures, flyers, manuals, etc.
 - Equipment Outlay and maintenance

Tissue Culture

- Banana tissue culture of varied varieties
- Commercialization of cultured banana tissues

Rice wine industrialization

- Cooking, fermenting, processing
- Packaging and commercialization

Culinary and post-harvest product development and commercialization

- Cereal and root crop based breads and delicacies
- Vegetable dishes and salads
- Protein and protein-based products

Other research-based projects

The University has a strong capability of implementing research development projects through a number of infrastructure, experimental farms, equipment and facilities needed for Research, Development, Extension, and Training activities.

- RDET Office occupies the whole RDET Building. First floor is used by Extension and training offices while the upper floor is used for research and development offices.
- Green House for Banana In-vitro Plantlet Development
- Science Laboratory is provided with good equipment and

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

LINKAGES AND FUND SOURCING

facilities for Soil Science, Animal Science, Crop Science and Crop Protection.

- Post Harvest Building
- Farm Mechanization Facilities
- Farmer's Agri-business Development Training Center
- Food Service Building
- Piggery and Poultry Building
- Experimental/Research Farms - there are experimental areas of 5.2 hectares in the main campus, for the conduct of applied researches, 22 hectares in Alfonso Lista Campus for the conduct of experimental researches.
- Techno-Demonstration Farm - the University has an existing rice production area of 1.2 hectares for technology demonstration on hybrid seed production, and 1/4 hectare of the model farm for farming system technology demonstration in the main campus.

In 2018, the RDET is allotted a budget of PhP 15,876,000 for its operations and various research and extension programs and projects. On top of this, there are other funds from partner agencies that were given to IFSU through project proposal submission. The University also established its linkage with the government agencies in the national, provincial and municipal level, and also non-government organizations. These are as follows:

Local linkages:

- Office of the Municipal Agriculturists (DA- LGU)
- Office of the Provincial Agriculturist (DA-Ifugao)
- Department of Agrarian Reform (DAR-Ifugao)
- Community Environment and Natural Resources Office (CENRO)
- Provincial Environment and Natural Resources Office (PENRO)
- Agricultural Training Institute - Regional Training Center (ATI-RTC)

Regional linkages:

- Highland Agriculture and Resources Research and Development Consortium (HARRDEC)
- Commission on Higher Education - Zonal Research Center (CHED-ZRC)
- Cordillera Research



RESEARCH GRANTS

National linkages:

- Department of Agriculture (DA)
- Bureau of Agricultural Research (BAR)
- Bureau of Fisheries and Aquatic Resources (BFAR)
- Philippine Rice Institute (PRI)
- DA - Agricultural Training Institute (DA-ATI)
- DA National Irrigation Administration (DA-NIA)
- Department of Science and Technology (DOST)
- Philippine Council for Advanced Science and Technology Research and Development (PCASTRD)
- Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)
- Department of Environment and Natural Resources (DENR)
- Department of Education (DepEd)
- National Economics and Development Authority (NEDA)
- National Council of Culture and Arts (NCCA)
- National Research Council of the Philippines (NCRP)

The university has a total of 266 faculty staffs to date, 77% (205) of them are permanent and 23% (61) are non-permanent (contract of service and guest faculty). Of the whole, only 18% (49) are presently engaged in research. Agencies provide financial support in the form of a grant to cover the cost of research projects. Out of 239 full-time academic staffs at the university, 6% (15) hold international and national research grants.

Among the international funding agencies is the Neys-van Hoogstraten Foundation which is focused on socio-economic specifically household budgeting and issues of family nutrition, such as household food security and food consumption, socio-economic change and its implications for food habits, food culture, and food and nutrition at household or community level in Indonesia and other (Southeast) Asian countries.

Below is the list of researches funded by Neys-van Hoogstraten Foundation:

- Traditional Food Processing and Preservation Techniques of the Indigenous Peoples in the Cordillera Region, Philippines: A Strategy for Household Food Nutrition Security
- Indigenous Knowledge in the Traditional Production of Native Rice: Impact to Food Security in the Upland Households of Ifugao



- Ethnobotanical Evaluation of Edible Wild Food Plants in Ifugao: A Review of their Potential to Combat Food Security
- Practices, Perspectives and Issues of Ifugao Swidden Farmers: Towards a Government Intervention
- Impact of Climate Change and Variability on Agricultural Production and Household Food Security: A Case of the Province of Ifugao

Other international agency includes CamTESOL, which is based in Cambodia and funds researches in the fields of language and language education.

- Writing Skills of Remedial Students in Lamut District, Philippines: An Alternative Learning System (ALS) Approach

Researches funded by local agencies in the Philippines:

DA - Bureau of Agricultural Research

- Development of Organic Dragonfruit Production Practices in Ifugao
- Identifying Suitable Sites for Small Scale Irrigation Projects in CAR through GIS-Based Water Resources Assessment

DA - Bureau of Animal Industry

- Establishment of a Nucleus Herd for the Ifugao Native Pig at IFSU

DA-Regional Field Office-Cordillera Administrative Region

- Effect of Different Locally-Produced Organic Fertilizers on the Growth and Yield of Heirloom Rice Varieties
- Earthworms Management in the Heirloom Rice Production Areas in Ifugao

CHED

- Adoption and Impacts of Drip and Sprinkler Irrigation Systems, and other Water-Saving Practices for Highland Horticulture (Research Collaboration)

PCAARRD

- Project 4: Disaster Risk Reduction on Climate Change Impacts on Rice and Vegetable Farms in Ifugao

CITATIONS IN
ARTICLES PUBLISHED
BY OTHER
RESEARCHERS IN
REFERRED
INTERNATIONAL OR
NATIONAL JOURNAL

The research department has already a good number of on-going and completed researches. Some were presented at national and international conference. Some were also recognized and cited in articles published by other researchers in referred journals local and international. Below is the list of cited published researches:

International Journal of Agriculture and Crop Science

- Effect of combined plant extracts on golden apple snail (*Pomacea canaliculata* (Lam.)) and giant earthworm (*Pheretima* sp)

European Scientific Journal

- Macrofloral biodiversity conservation in Ifugao
- Quality improvement of organic compost using green biomass

Advancing Assisted Natural Regeneration (ANR) in Asia and the Pacific

- Muyong forest of Ifugao: assisted natural regeneration in traditional forest management

American Journal of Experimental Agriculture

- Impacts of pesticides and fertilizers on soil, tail water and groundwater in three vegetable producing areas in the Cordillera Region, Northern Philippines
- Modern farming technologies: Impact on farm productivity and food security in the rice terraces of the Cordillera Region, Northern Philippines

Mycoscience

- Interactions among ammonia fungi on MY agar medium with varying pH

Abstract-The 50th Anniversary Annual Meeting for the Mycological Society of Japan

- Growth responses of ammonia fungi to different concentrations of ammonium nitrogen

Open Science Repository

- Ground yellow mealworms (*Tenebrio molitor* L.) feed supplementation improves growth performance and carcass yield characteristics in boilers

International Journal of Applied Linguistics and English Literature

- A Study on the Relationship between Motivation and Language Learning Achievement among Tertiary Students

To further increase the citations in journals/books, the following strategies/measures were undertaken:

- Creation of Facebook page of the Upland Journal
- Creation of the official website of the Upland Farm Journal

PROTECTING INTELLECTUAL PROPERTY (IP)

- Journal exchange with other State Universities and Colleges.

The Upland Farm Journal (UFJ) is the official research journal of IFSU that publishes high-quality articles, in English, in all areas of academic discipline. It is one of the journals in the Philippines accredited by the Commission on Higher Education (CHED) and is entitled to the incentives stipulated in CMO No. 5, s. 2012. All articles published in the journal are peer-reviewed using double blind scheme. This means that the author of the manuscript is unknown to the reviewer and the reviewer is likewise not revealed to the author. UFJ is published annually or biannually depending on the number of article submissions.

IFSU acknowledges the need to provide Intellectual Property Policies to continuously discover new knowledge, and to generate and commercialize technologies for an improved quality of life in Ifugao by identifying and protecting the rights of the University, its faculty, staff and students. Currently, the R & D is drafting the IP policies to be submitted to the Board of Regents.

As of August 2018, there are 8 utility models filed at the Intellectual Property Office and 10 copyright works filed at the National Library while 66 utility models and 20 copyright works were registered at IPOPhil.

INCENTIVES, AWARDS AND RECOGNITION

Researchers whose research paper/articles are chosen, presented (oral or poster) and are chosen and ranked as best papers/posters during the Agency In-House review, regional, national and international R & D symposium will be given incentives, subject to availability of funds. Scientific papers presented in public fora/discussions/conferences shall also be given incentives, subject to availability of funds. Similarly, scientific papers published in journals, books, and magazines shall also be given incentives.

Furthermore, IFSU conducts a search among its rank and file for Outstanding Researcher and Outstanding Extension Worker to recognize contributions in the field of research and development and extension services of the University. The search aims to motivate and honor those engaged in research and extension. The award is given annually during the University Charter Day.

STUDENT INVOLVEMENT IN RESEARCH AND EXTENSION

Research is a compulsory subject across all disciplines in the University. The students can pick the topic of their choices (but limited to the scope of their courses) and can work individually or by group. They are also allowed to make use of the available research and extension facilities of the University provided they abide by existing rules and regulation in the utilization of said facility.

Moreover, students can be junior researchers involved as part of the research programs and projects. Financial or material support is granted

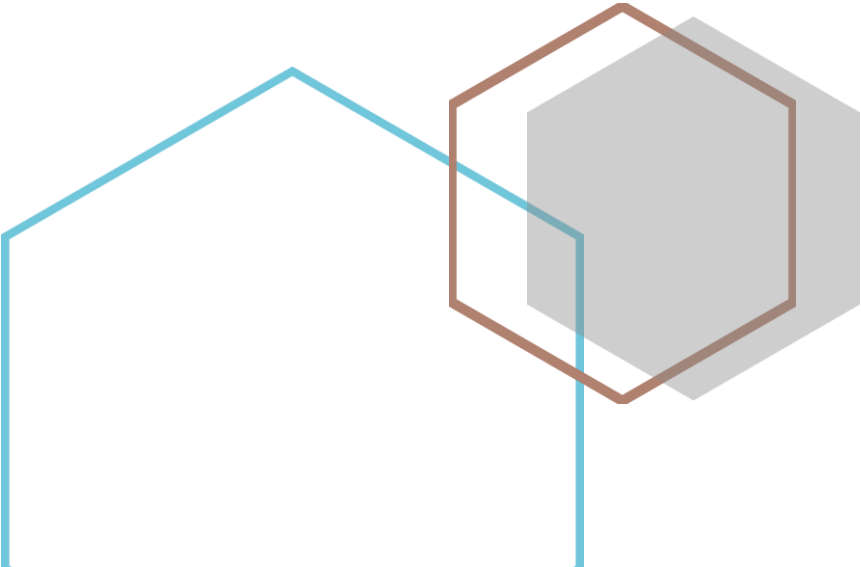
if funds are available. This to strengthen student's research capabilities by providing financial or material assistance for graduate and undergraduate thesis.

In addition, there is a University Research and Extension Exposition Forum (by Category) that serves as an avenue for students to present their researches and extension projects/activities. A plaque of recognition and cash amount will be given to the most outstanding researcher and extensionist.





Agribusiness and Entrepreneurial Management



AGRI-BASED PROJECTS

The University has Agribusiness and Entrepreneurial Management that manages the Income Generating Projects (IGPs). IGPs are income generating enterprises that are profitably operated with the use of innovative and cost effective practices, supportive to instruction, research and extension and promoting entrepreneurship to ensure better quality of life and food security within the province, region and country as a whole.

These entrepreneurial agribusiness programs help the university in its effort to increase its budget but more importantly in the delivery of its services to students and employees.

-
- Food service
 - Corn production
 - Integrated farm
 - Piggery project
 - Poultry project
 - Cattle production
 - Goatery
 - Dressmaking project
 - Marketing center services
 - Postharvest processing
 - Broiler contract growing
 - Wood carving
-

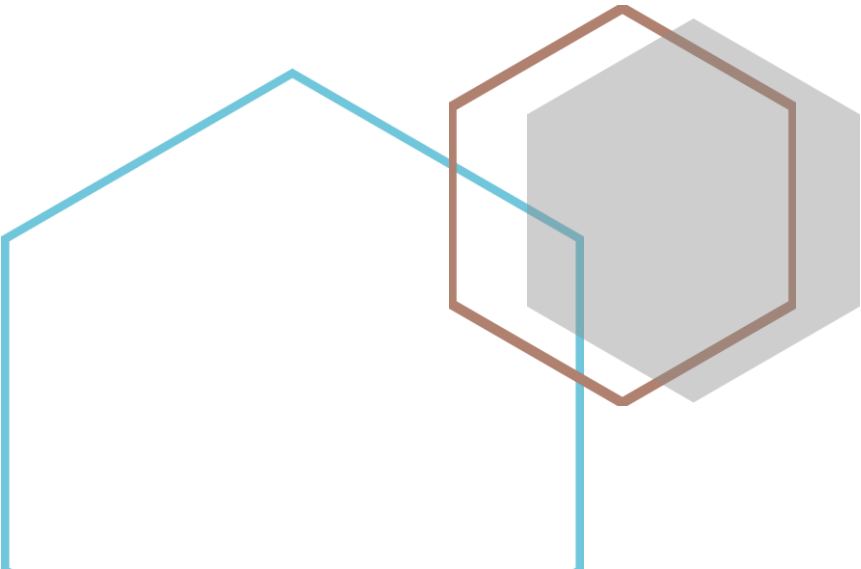
NON AGRI-BASED PROJECTS

-
- Library photocopying & bookbinding
 - Internet auxiliary services
 - Printing press
 - Furniture and cabinet making
 - Land and facilities renting
-

Production and related projects are established and maintained to support curricular offerings especially the vocational and technical courses in Agriculture. Specifically, some project such as crops, poultry, swine, livestock, and fishery are maintained where the students undertake the actual operation of the projects, (being course related) and share with the net profit. The IGPs shall be operated in a business-like manner to which theories taught in classrooms shall be demonstrated in practice. Similarly, the project shall be a venue for in-campus internship program.



Student Welfare and Student Development Support



EXISTING HEALTH SERVICE AT THE UNIVERSITY PREMISES

The University promotes the validity of a holistic approach to student development through the Department of Student Services and Development. This office ensures that student welfare are properly developed and delivered. It support students to meet their primary goal of acquiring education and personal development to enable them to realize their potential and make meaningful contribution in their area of expertise for the development of the community, nation, and wider society.

It aims to effectively implement the student programs and continuously make efforts for its improvement, enhance student capabilities through trainings, symposiums, and seminar workshops; strengthen awareness and empower the students for increased responsibility towards equitable society. Under the department are (1) guidance and counselling, (2) student organizations and activities, (3) student housing, (4) student publication, (5) scholarships and financial assistance, (6) campus ministry, (7) socio-cultural affairs, and (8) alumni affairs.

Furthermore, IFSU attracts talented students through the creation of different student organizations; extra-curricular activities such as sports fest and socio-cultural contests; extension training programs; scholarship grants; awards and recognitions; and facilities and equipment.

PROVISION OF SUPPORT FOR STUDENT ACCOMMODATION

The University provides primary medical and dental care to students, faculty members and employees and the community to ensure a healthy working environment. The University also has an eye center located at Potia, Alfonso Lista, Ifugao. It treated at least 1,461 patients with eye problems from June to August 2018.

The University has dormitories to provide lodging to students who wish to be housed within the campus during their stay in the university. Priority is given to freshmen and students from distant places and is on a “first come, first served” basis.

EXISTING SUPPORT SERVICE FOR REDUCING DEBT LOAD OF STUDENTS

Considering the fact that majority of the students are from low income families, assistance in the form of Scholarship and Financial Assistance (FA) are provided. The University offers 57 scholarships to students: 11 IFSU sponsored scholarships, 38 government sponsored scholarships, and 8 private scholarships and financial assistance.

Furthermore, the Commission on Higher Education (CHED) has issued the Republic Act No. 10931, an act promoting universal access to quality tertiary education by providing for free tuition and other school fees in state universities and colleges, local universities and colleges and state-run technical-vocational institutions, establishing the tertiary education subsidy and student loan program, strengthening the unified student financial assistance system for tertiary education, and appropriating fund.

EXISTING OPTIONS FOR PART- TIME/DISTANCE/FLEXI BLE LEARNING AT THE UNIVERSITY

The University is committed to deliver inclusive global education to target learners constrained by time, work, space and distance through blended learning and maximum use of technology. The College of Open Distance & Transnational Education (CODETE) offers the following programs: Doctor of Philosophy in Educational Management, Doctor of Philosophy in Management, Master of Arts in Teaching, Master of Arts in Education, Master in Public Administration, Master in Business Administration, Master of Arts in Nursing and Diploma in Teacher Education.

EMPOWERING STUDENTS AS STAKEHOLDERS IN UNIVERSITY GOVERNANCE

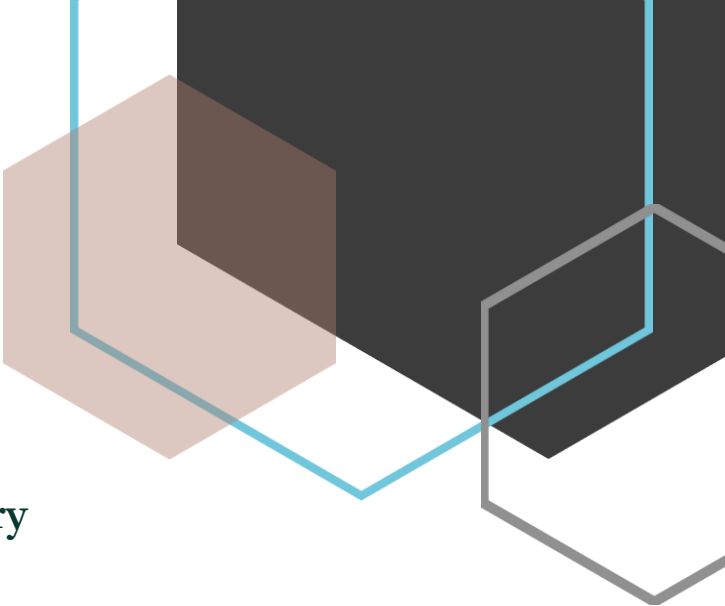
The University Student Supreme Government (USSG) Federation is the highest governing body of students and created for the purpose of serving as a link and bridge between the administration and the student population. All elected student government officers of the different campuses of the University shall confederate and shall form the USSG Federation.

In each organization they must comply with the guidelines of the university wherein they must have a Constitutions and By-Laws (CBL) approved by the DSSD and Campus Executive Directors. In case of major issues raised by the student body in each campus, the leaders relay their concerns to the USSG through a meeting for further solvency or development. The President of the federation shall sit as the Student Regent in the Board of Regents of the University.

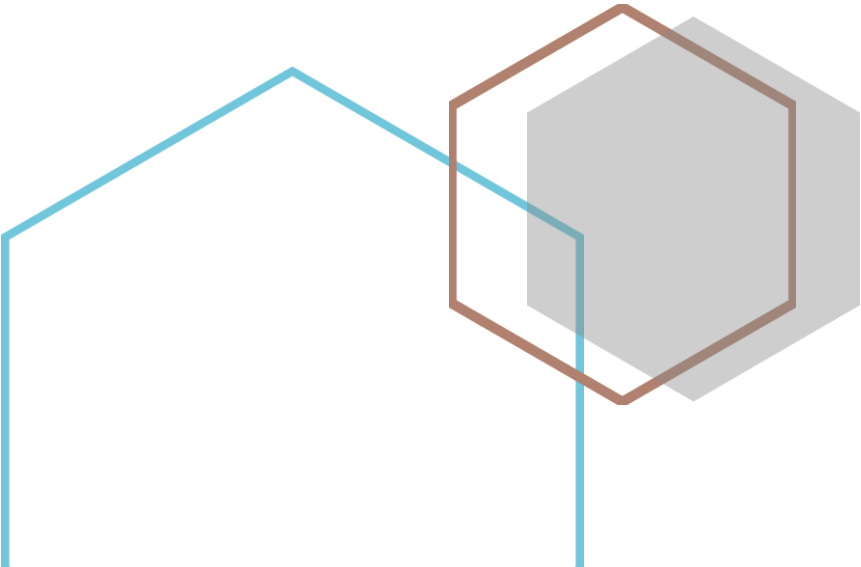
SUPPORTING STUDENTS' CAREER

Career guidance services is one among the services of the Guidance and Counseling Section. It is provided as early as students enter the University as freshmen, transfer-in students or shiftees. This service is made available for students within the duration of their stay in the University. During the release of the entrance examination result, students especially those who are still undecided on what course to take up in college are provided career counseling. Likewise, we also consider the need for shiftees to undergo career counseling through close coordination with College Deans, Enrolling Officers and Registrar to help us identify the shiftees for purposes of referral for career guidance services.

As an annual program under career development and placement services, graduating students are required to undergo Career Development and Placement Seminar in coordination with the Department of Labor and Employment (DOLE). Likewise, graduating students are required to undergo terminal/exit as part of the service. Posters of job vacancies received by the office from prospective employers are being posted for placement purposes. The Alumni Affairs Office traces and monitors the employment status of graduates and other concerns related to alumni.



Summary



The University had transformed itself into a competitive and responsive University with its rapid expansion in reach and depth of its programs particularly in its curricular offerings, research, extension and income generation thrusts. In parallel is the pursuit of quality and excellence in all spheres. While the University is in the right direction, there is still much to be worked on and desired especially when it comes to the quality and employability of its graduates. That will be a good area to focus on in the next decade of efforts.

