

Tracer Study of the Civil Engineering Graduates of Cagayan State University For Graduates of 2019-2023

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INTRODUCTION

The dynamic and competitive global landscape necessitates higher education institutions to continuously evaluate their academic programs' effectiveness. A graduate tracer study is a vital tool for this assessment, providing systematic feedback on graduates' transition from academia to the professional world.

This study traces the graduates of the Bachelor of Science in Civil Engineering program from Cagayan State University for the academic years 2019 to 2023. Its primary objectives are to:

1. Determine the employment profile and professional progress of the graduates.
2. Evaluate the relevance of the undergraduate curriculum to their current jobs.
3. Identify the competencies learned in college that are most valuable in the workplace.
4. Gather insights to enhance the institution's academic offerings, student services, and career guidance programs.

The results of this study will be invaluable for university administrators, faculty, current students, and industry partners.

METHODOLOGY

Research Design:

It employed a Descriptive Survey Research Design to quantify and describe the employment characteristics, professional achievements, and perceived curriculum relevance among the graduates.

Respondents and Sampling:

The target population consisted of all 564 graduates who earned their BS in Civil Engineering degree from Cagayan State University between 2019 and 2023. The official list of graduates was requested from the Campus Registrar per the university guidelines. Census sampling was attempted, aiming to survey the entire population.

Data Gathering Instrument:

The primary instrument was the official CSU Graduate Tracer Survey (GTS) questionnaire, a modified structured questionnaire adopted from the Commission on Higher Education (CHED) and approved by the CSU Board of Regents (BOR). The tool contained sections on: (A) General Information, (B) Educational Background, (C) Trainings/Advance Studies, (D) Employment Data, (E) Job Satisfaction, and (F) Services from CSU. The CSU Graduate Tracer Survey (GTS) questionnaire is provided as Appendix A (see attached file).

Data Collection Procedure:

Data collection was administered online via a Google Form to maximize reach and efficiency. The survey link was distributed through the official alumni social media pages and faculty members. For graduates without internet access, follow-up was conducted via phone call to ensure maximum response consistency.

Ethical Considerations:

All responses were treated with the strictest confidentiality. Participation was voluntary, and consent was implied upon completion of the questionnaire.

RESULTS AND DISCUSSION

Response Rate, Demographic Profile, and Sex Distribution

In adherence to the university's guidelines, the official list of 564 graduates was obtained from the Campus Registrar. The survey was distributed, resulting in 233 completed responses, yielding an overall response rate of 42.91% (Figure 1). A batch-by-batch analysis (Table 1) shows consistent engagement, ensuring robust representation from each cohort.

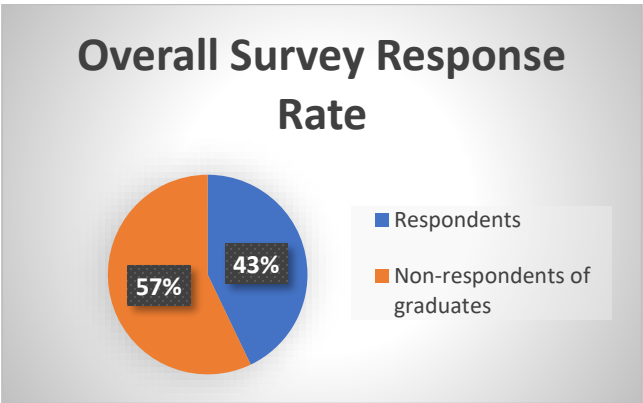


Figure1: Overall Survey Response Rate

Table 1: Response Rate by Batch Year

YEAR OF GRADUATION	NO. OF RESPONDENTS	NO. OF GRADUATES	RESPONSE RATE
2019	42	107	39.25%
2020	32	107	29.91%
2021	18	79	22.78%
2022	60	105	57.14%
2023	81	166	48.80%
TOTAL	233	564	41.31%

Of the 233 respondents, 155 (66.52%) were male and 78 (33.48%) were female (Figure 2). While this overall distribution remains consistent with traditional demographic trends in civil engineering, a year-by-year analysis reveals a remarkable and encouraging progression in female representation. The data shows a clear upward trajectory, with the percentage of female graduates increasing from 12% in the 2019 and reaching 23% in the 2023 cohort. This steady growth from 12% to 23% over a four-year period demonstrates a positive and substantial shift toward greater gender diversity within the program, reflecting both broader societal changes and successful institutional efforts to promote the field to women.

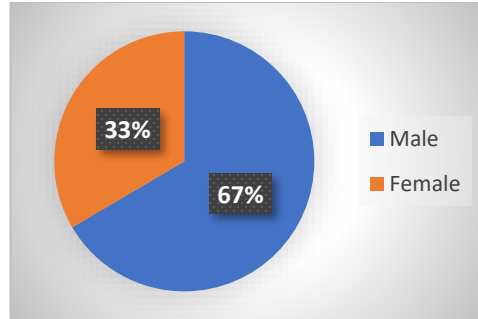


Figure 2: Overall Gender Distribution of Respondents

Table 2: Sex Distribution among Graduates

YEAR GRADUATED	MALE	FEMALE	% MALE	% FEMALE
2019	29	13	69.05%	12.15%
2020	27	5	84.38%	4.67%
2021	16	2	88.89%	2.53%
2022	40	20	66.67%	19.05%
2023	43	38	53.09%	22.89%

Professional Advancement and Further Studies

The data on professional achievements, detailed in Table 1, reveal a strong commitment to professional credentialing. A commanding majority, 188 graduates (80.69%), have passed the Civil Engineering Licensure Examination and are registered Licensed Civil Engineers as shown in Figure 3. This high pass rate is a strong indicator of the program's effectiveness in preparing students for the professional standards of the field.

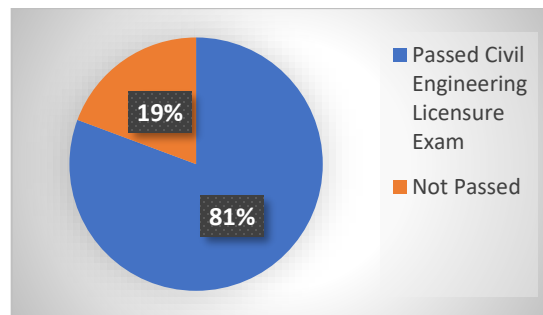


Figure 3: Licensure Exam Passing of Graduates

A minority of graduates (44, 18.88%) reported currently pursuing post-graduate studies. Analysis of their primary motivations revealed a clear hierarchy of intent.

Professional development emerged as the dominant driver, cited by 22 graduates (50.0% of those pursuing further studies), indicating a primary focus on enhancing technical expertise and professional competencies. This was closely followed by instrumental career goals, with promotion and career advancement each cited by 15 graduates (34.1%). This suggests that while a significant portion view advanced degrees as a strategic tool for career progression, the foremost driver remains a commitment to continuous learning and professional mastery.

Table 1: Professional Achievement and Further Studies

CATEGORY	NUMBER	%
Passed Civil Engineering Licensure Exam	188	80.69%
Pursuing Post- graduate Studies	44	18.88%

Employment Profile

The results are highly positive, with 213 out of 233 respondents (91.42%) presently employed, as shown in Figure 4. This exceptionally high employment rate underscores the strong demand for civil engineering graduates from CSU.

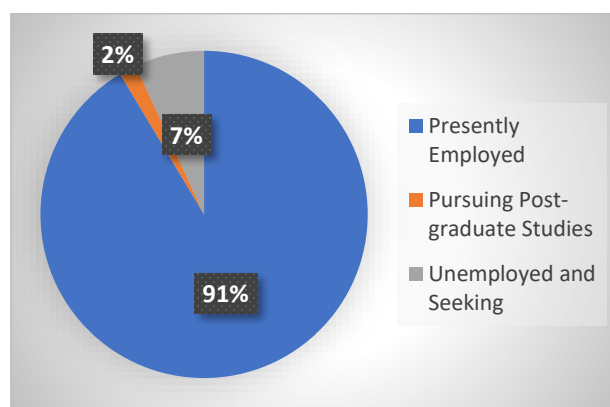


Figure 4: Present Employment Rate

Analysis of employment data reveals strong engagement with the workforce, though the nature of that engagement varies. Sectoral distribution presents a relatively balanced landscape between private and public employment. Figure 5 shows Private sector employment accounts for 53% (113 graduates), primarily within the Construction industry (68.3%) and Design and Consultancy firms (22.0%). A substantial 47% (99 graduates) are employed in government agencies, indicating significant absorption of engineering talent into public infrastructure projects.

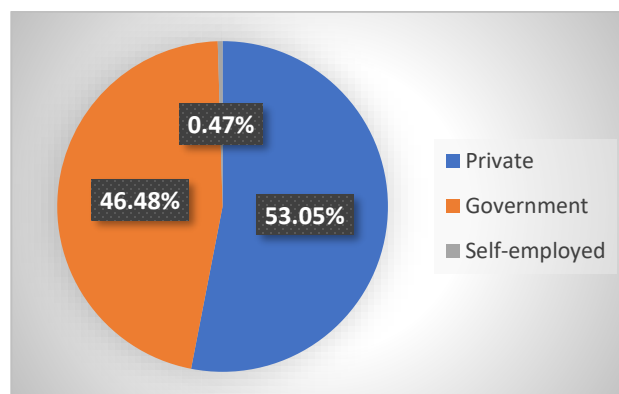


Figure 5: Present Occupation Sector

A crucial analysis of employment status, however, reveals a more nuanced picture of job security shown in Figure 6. While a significant portion of graduates are engaged in the workforce, the data shows that the majority (106 or 50.24%) are employed on a contractual

basis. This is followed by those who have secured regular or permanent positions (85 or 40.28%).

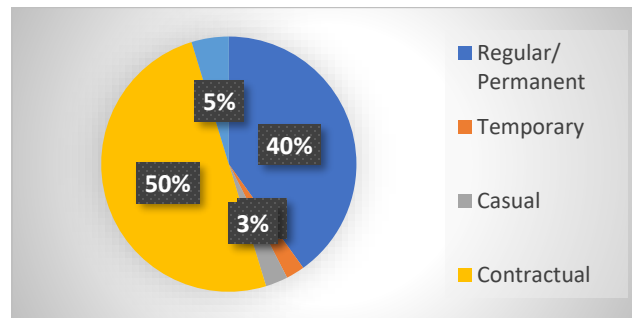


Figure 6: Employment Status

This high proportion of contractual employment is characteristic of the project-based nature of the construction industry, which forms the largest employer of these graduates. It suggests that while job availability is high, the pathway to permanent tenure can be longer and may depend on project cycles and performance.

Geographically, an overwhelming majority (207 or 97.18%) are working locally, demonstrating that the program successfully contributes to building domestic engineering capacity and supporting the local economy.

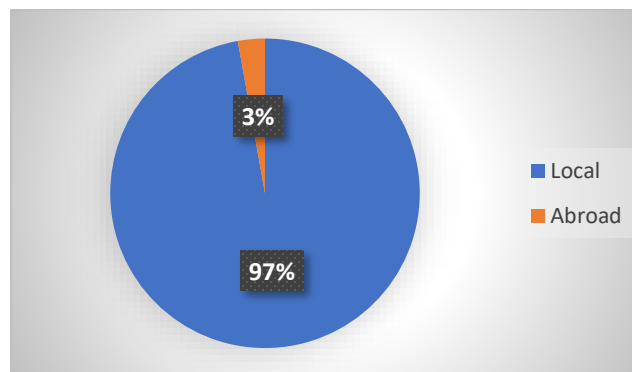


Figure 7: Present Occupation and Location

Job search Experience

The transition from academia to the workforce was notably swift for most graduates. For 176 employed graduates (83.56%), their first job after college was directly related to their Civil Engineering degree demonstrating a strong alignment between their education and career entry. As Figure 8 illustrates, most secured their position quickly: 64.89 % in less than 6 months and 21.78% within 6-12 months, meaning over 91.55% were employed within a year after graduation.

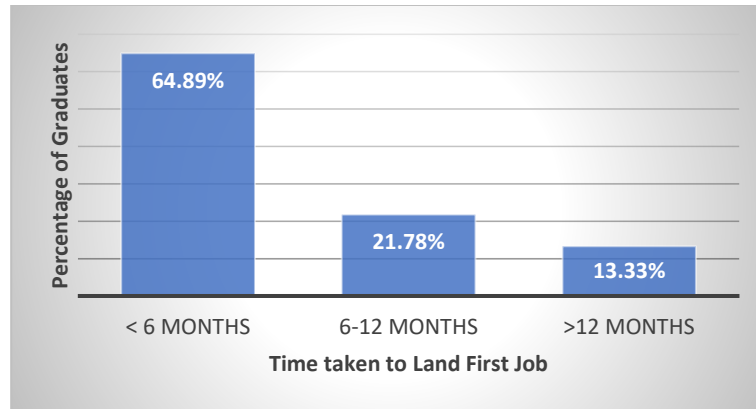


Figure 8: Duration to Secure First Job

Analysis of initial job search methods reveals the critical importance of interpersonal connections in securing employment (Figure 9). Half of those who were employed (49.33%) secured their first position through personal recommendations, highlighting the value of professional networks and social capital. An additional 37.78% found employment through direct walk-in applications, demonstrating proactive job-seeking behavior. Together, these informal channels emphasizes that successful employment outcomes depend heavily on networking initiatives and direct employer engagement rather than formal application processes alone.

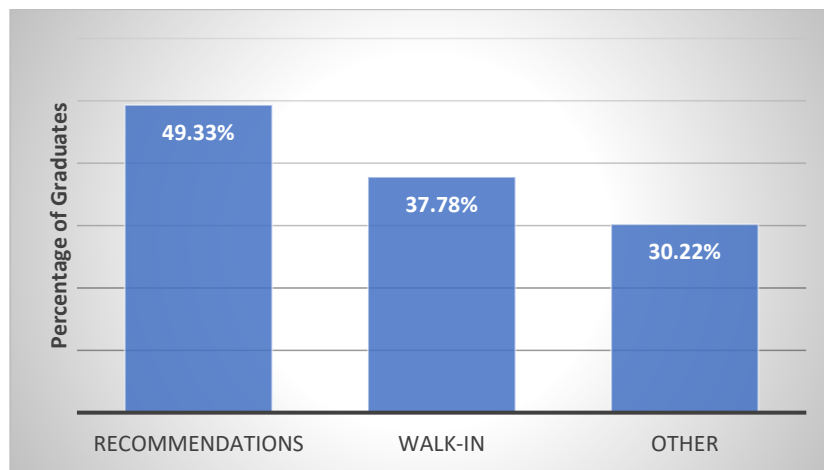


Figure 9 Primary Method of Securing First Job

Job Level, Compensation, and Curriculum Relevance

The career progression from first job to current position is a key indicator of success. Figure 10 clearly shows this evolution. Entry-level roles dominated first jobs, with 44.00% in Professional, Technical, or Supervisory positions (e.g., Site Engineer, Project Engineer). A significant shift is observed in their current jobs: while the majority remain in these core technical roles, there is a notable increase in the proportion of graduates who have advanced to Managerial or Executive roles (4.27%).

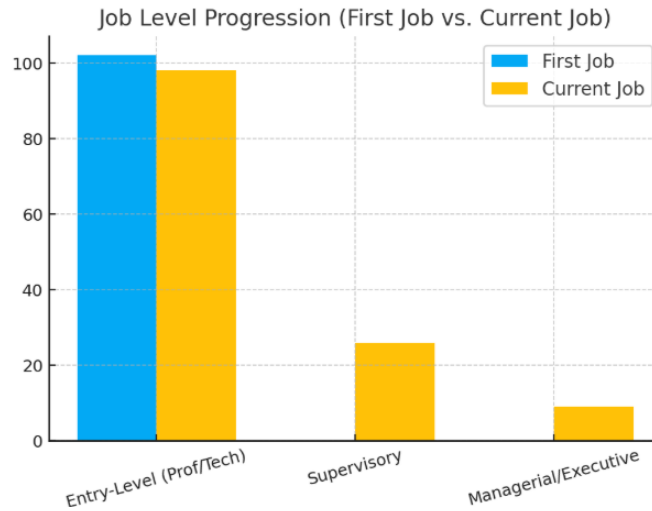


Figure 10: Job Level Progression (First Job vs. Current Job)

Regarding compensation, the most common starting salary range was PHP 15,000 - PHP 20,000 (53.33%), followed by PHP 20,001 - PHP 30,000 (42.67%).

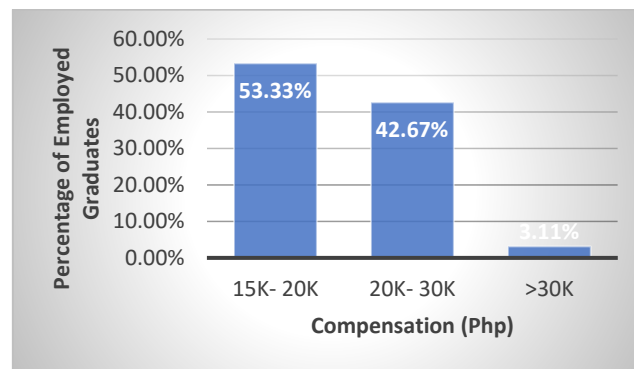


Figure 11: Starting Salary Range of Employed Graduates

A central finding is the high perceived relevance of the academic curriculum. As shown in Figure 12, an overwhelming 83.56% of employed graduates stated the curriculum was relevant to their first job. This is a strong validation of the program's design. When asked to identify the most useful competencies, graduates highlighted Critical Thinking skills (87.56%) Problem-solving skills (85.78%), and Communication skills related to the course (77.78%) as most critical to their daily work.

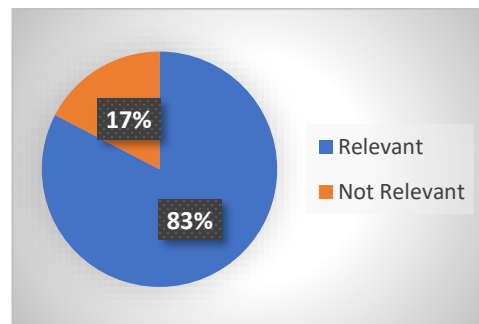


Figure 12: Perceived Relevance of Curriculum to First Job

Level of Job Satisfaction

Overall, graduates report a solid level of job satisfaction, with a weighted mean score of 3.59 on a 5-point scale. This indicates that the majority of graduates are successfully applying their skills and knowledge in rewarding careers. However, the score also suggests a significant cohort experiences a moderate level of satisfaction. This presents a strategic opportunity for the program to deepen its engagement with employers and alumni to better understand the drivers of satisfaction. Enhancing support in areas such as career advancement, professional networking, and ongoing skill development could help elevate outcomes and further strengthen the value proposition of the BSCE degree.

Analysis of Unemployment and Underemployment

While the overall employment rate of 91.42% is notably high, an examination of the 20 unemployed graduates provides important contextual insight. The primary reasons cited for unemployment reveal distinct pathways and challenges.

The majority of unemployed respondents (60%) attributed their status to a lack of job opportunities, suggesting these graduates are actively seeking employment but facing constraints in the current market. A notable proportion (20% each) reported unemployment due to pursuing further study, indicating a voluntary, temporary postponement of employment for educational advancement.

This distribution indicates that while most graduates successfully transition to work, a subset encounters specific structural or individual barriers that warrant continued attention from career support services.

Problems, Issues, and Concerns

While quantitative data shows high employment rates, qualitative responses reveal significant concerns affecting graduate satisfaction and career progression. Analysis of open-ended feedback identifies several recurring themes:

Compensation Issues emerged as the most frequent concern, with graduates consistently describing salaries as "very low," "below minimum," or "not enough to support basic needs." Many reported feeling "overworked and underpaid," with specific mention of entry-level offers ranging from ₱18,000 monthly, which they considered insufficient given their qualifications and job demands.

Employment Barriers presented another major challenge, particularly for recent graduates. Respondents frequently cited "companies preferring experienced applicants even for entry-level roles," creating a significant hurdle for new graduates. Many noted that the field has become "saturated," resulting in "limited openings" and "high competition." Several graduates specifically mentioned that "connections" or the "kapit-system" (influence peddling) played a significant role in hiring decisions, putting those without industry connections at a disadvantage.

Work Conditions were described as demanding, with graduates reporting "long work hours," "physically and mentally exhausting" environments, and "toxic workplace cultures." Some mentioned inadequate resources, such as "shortage of funds to support

project sites" and "delayed delivery of materials," which hampered their ability to perform effectively.

These qualitative insights provide important context to the quantitative employment data, suggesting that while job placement rates are strong, significant challenges remain in compensation equity, fair hiring practices, and workplace conditions that fully utilize graduates' capabilities

CONCLUSION AND RECOMMENDATIONS

Conclusion

This Graduate Tracer Study of the Bachelor of Science in Civil Engineering graduates of Cagayan State University (2019–2023) highlights the program's effectiveness in producing competent and employable civil engineers. The findings show a high employment rate of 91.42%, a short job-search period for most graduates, and strong alignment of the curriculum with workplace requirements. The high civil engineering licensure examination pass rate further demonstrates the program's academic rigor and capacity to prepare students for professional practice.

Graduates identified critical thinking, problem-solving, and communication skills as the most relevant competencies acquired during their studies. However, the study also revealed challenges, including contractual employment arrangements, relatively low entry-level compensation, competitive job markets, and demanding work conditions. These issues highlight areas where institutional support and program enhancement remain essential.

Overall, CSU's BSCE program has established itself as a reliable source of highly capable civil engineers contributing significantly to both the private and public sectors in the Philippines.

Recommendations

Based on the findings of this tracer study, the following recommendations are proposed to address both the strengths and challenges identified:

A. Curriculum Enhancement

Since graduates affirmed the curriculum's relevance to their first jobs but also indicated the growing importance of technical proficiency in advanced tools, it is recommended to integrate mandatory training in industry-standard software. Likewise, given that many graduates eventually transition into supervisory and managerial roles, expanding electives in construction management, business law, and project finance will better prepare them for leadership positions and self-employment.

B. Career Support and Alumni Engagement

The study revealed that nearly half of the graduates relied on personal recommendations to secure their first jobs, underscoring the value of networks and mentorship. Thus, CSU may formalize an Alumni Mentorship Program to guide new graduates through career entry and advancement. Since job satisfaction levels were moderate, enhanced career placement services, continuing education programs, and

professional upskilling seminars are also recommended to support long-term satisfaction and career growth.

C. Industry and Employer Partnerships

With more than half of the respondents employed on a contractual basis and many expressing dissatisfaction with low compensation and limited opportunities, CSU should strengthen partnerships with both public and private employers to advocate for fairer employment terms and broaden job opportunities. Encouraging industry participation in curriculum review and on-campus recruitment will also ensure continuous alignment between training and employer expectations.

D. Future Research

As this study provides only a short-term snapshot of recent graduates, a longitudinal tracer study after 5–10 years is recommended to capture long-term career progression, mobility, and leadership attainment. Furthermore, since graduates raised qualitative concerns such as salary negotiation, work-life balance, and workplace culture, focused group discussions (FGDs) should be conducted to gain deeper insights and craft evidence-based interventions.

By implementing these recommendations, which are grounded in both the quantitative data and qualitative insights, Cagayan State University can sustain its strong outcomes while addressing the challenges that graduates face in the profession.

Appendix A
Graduate Tracer Study Questionnaire

Dear Graduate,

Good day! Please complete this GTS questionnaire as accurately & frankly as possible by checking (/) the box corresponding to your response. Your answer will be used for research purposes in order to assess graduate employability and eventually, improve course offerings of your Alma Mater. Your answers to this survey will be treated with strictest confidentiality.

GRADUATE TRACER SURVEY (GTS)

A. GENERAL INFORMATION

1. Name _____
2. Permanent Address _____
3. E-mail Address _____
4. Telephone or Contact Number (s) _____
5. Mobile Number _____
6. Civil Status
☐ Single ☐ Separated/Divorced ☐ Single Parent
☐ Married ☐ Widow or Widower
7. Sex ☐ Male ☐ Female
8. Birthday: (mm/dd/year) _____

B. EDUCATIONAL BACKGROUND

9. Educational Attainment (*Baccalaureate Degree Only*)
Degree: _____
Specialization/Major Field of Study: _____
Year Graduated: _____
Honors/Awards Received: _____

10. Professional examination (s) Passed

Name of Examination	Date Taken	Rating
_____	_____	_____

11. Have you pursued advance degree program? ☐ Yes ☐ No

12. If yes, why? (*You may select multiple answers*)

☐ High Grades in the course or subject area (s) related to the course

- ☐ Influence of parents or relatives
- ☐ Peer Influence
- ☐ Inspired by a role model
- ☐ Strong passion for the profession
- ☐ Prospect for immediate employment
- ☐ Status or prestige of the profession
- ☐ Availability of course offering in chosen institution
- ☐ Prospect of career advancement
- ☐ Affordable for the family
- ☐ Prospect of attractive compensation
- ☐ Opportunity for employment abroad
- ☐ No particular choice or no better idea
- ☐ For promotion
- ☐ For professional development
- Others, please specify _____

C. TRAINING(S) ADVANCE STUDIES ATTENDED AFTER COLLEGE *(optional)*

13. Please list down all professional or work-related training program (s) including advance studies you have attended after college. You may use extra sheet if needed

Title of Training or Advance Study	Duration & Credits Earned	Name of Training Institution
_____	_____	_____
_____	_____	_____
_____	_____	_____

D. EMPLOYMENT DATA

(Employment here means any type of work performed or services rendered in exchanged for compensation under a contract of hire which create the employer and employee relations)

14. Are you presently employed? ☐ Yes ☐ No ☐ Never Employed

15. If no, Why? *(You may select multiple answers)*

- ☐ Advance or further study
- ☐ Family concern and decided not to find a job
- ☐ Health-related reason (s)
- ☐ Lack of work experience
- ☐ No job opportunity
- ☐ Did not look for a job
- ☐ Other reason (s), please specify: _____

16. If yes, what is your present employment status?

- ☐ Regular or Permanent ☐ Contractual
- ☐ Temporary ☐ Self- employed

☐ Casual

17. Present occupation: (you may have multiple answers)

☐ Officials of Government and Special-Interest Organizations, Corporate Executives, Managers, Managing Proprietors and Supervisors.

☐ Professionals

☐ Technicians and Associate Professionals

☐ Clerks

☐ Service workers and Shop and Market Sales Workers

☐ Farmers, Forestry Workers and Fishermen

☐ Trades and Related Workers

☐ Plant and machine Operators and Assemblers

☐ Laborers and Unskilled Workers

☐ _____ Others, pls
specify_____

18. Name of Company or Organization including address (*Pls upload your company ID or other proof of employment*) _____

19. Major line of business of the company you are presently employed in. (*Please check one only*)

☐ Agriculture, Hunting and Forestry

☐ Fishing

☐ Mining and Quarrying

☐ Manufacturing

☐ Electricity, Gas and Water Supply

☐ Construction

☐ Wholesale and Retail Trade, repair of motor vehicles, motorcycles and personal and household goods

☐ Hotels and Restaurants

☐ Transport Storage and Communication

☐ Financial Intermediation

☐ Real State, Renting and Business Activities

☐ Public Administration and Defense; Compulsory Social Security.

☐ Education

☐ Health and Social Work

☐ Other community, Social and Personal Service Activities

☐ Private Households with Employed Persons

☐ Self employed

☐ Others, please specify_____

20. Place of Work () Local () Abroad

21. Is this your **first job** after college? () Yes () No

22. Is your **first job** related to the course you took up in college? () Yes () No

21. Date of first employment: mm/dd/year: _____

22. How long did it take you to land your **first job**? _____ (*in months*)

23. How did you find your **first job**? (*You may select multiple answers*)

() Response to an advertisement

() As walk-in applicant

() Recommended by someone

() Information from friends

() Arranged by school's job placement officer

() Family business

() Job Fair or Public Employment Service Office (PESO)

() Others, please specify _____

23. What are the reason (s) for landing on the job? (*You may select multiple answers*)

() High salaries and benefits

() Career challenge

() Related to special skill

() Related to course or program of study

() Proximity to residence

() Peer influence

() Family influence

() Other reason(s), please specify _____

24. If you change job, why? (*You may select multiple answers*)

() Higher salaries and benefits

() Career challenge

() Related to special skills

() Proximity to residence

() Other reason (s), please specify _____

25. Job Level Position

Job Level	First Job	Current Job (<i>other than your first job</i>)
Rank or Clerical	()	()
Professional, Technical or Supervisory	()	()

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G. PROBLEMS, ISSUES AND CONCERNS *(pls write the problems, issues and/or concerns met in your job or in finding your job)*

Thank you for taking time out to fill out this questionnaire.