|  |  |  |
| --- | --- | --- |
| **BACHELOR OF ENGINEERING TECHNOLOGY MAJOR IN COMPUTER ENGINEERINGTECHNOLOGY (BET-CPET)** | | |
| **VISION** | The Technological University of the Philippines shall be the premier state university with recognized excellence in engineering and technology education at par with the leading universities in the ASEAN Region. | |
| **MISSION** | The Technological University of the Philippines shall provide higher and advanced vocational, technical, industrial, technological and professional education and training in industries and technology and in practical arts leading to applied research, certificates, diplomas and degrees. It shall provide progressive leadership in developmental studies in technical, industrial and technological fields and production using indigenous materials, effect technology transfer in the countryside; and assist in the development of small and medium scale industries in identified growth-centers. | |
| **TUP CORE**  **VALUES** | 1. transparency and participatory governance 2. unity and cooperation in the pursuit of tup mission, goals and objectives   P- professionalism in the discharge  I- integrity and consistent commitment to maintain the good name of the University  A-accountability for individual and organizational quality performance  N- nationalism through tangible contribution to the rapid economic growth of the country  S- shared responsibility, hard work, and resourcefulness in compliance to the national mandates | |
| **COLLEGE**  **GOALS** | The College of Industrial Technology develops highly skilled technicians, technologists, and applied researchers who are needed to sustain industrial growth and development for the enhancement of quality of life. | |
| **COLLEGE**  **OBJECTIVES** | 1. Develop, improve and implement training program to attain effective delivery system of technological education. 2. Strengthen faculty qualification and rank. 3. Provide opportunities for faculty researches, and come up with new concepts, materials and processes. 4. Make available the facilities of the College and expertise of the faculty to the community. | |
| **PROGRAM**  **DESCRIPTION** | The Bachelor of Engineering Technology (BET) major in Computer Engineering Technology is a practiceoriented program designed to equip students with a solid foundation in electrical systems, automation, and applied electronics. This program bridges the gap between theoretical engineering principles and hands-on technical skills, preparing graduates to take on roles in the design, installation, maintenance, and supervision of electrical systems in various industries.  Students will gain comprehensive knowledge in areas such as power generation and distribution, industrial control systems, programmable logic controllers (PLCs), motor control, renewable energy systems, and instrumentation. The curriculum emphasizes real-world application through laboratory work, project-based learning, and industry immersion. | |
| **PROGRAM**  **EDUCATIONAL**  **OBJECTIVES** | After 3-5 years of graduation, the graduates of the program are expected to:  11.Develop highly competent technologists who are acquainted with the latest development to new a technology   1. Produce technical leaders who are innovative in implementing acquired knowledge from researches conducted using indigenous materials 2. Support the growth and development of small and medium scale industries in the countryside through transfer technologies 3. Pursue life-long learning activities such as graduate studies or advanced professional seminars, training, and conferences | |
| **PROGRAM**  **OUTCOMES** | 1. Apply knowledge of mathematics, science, engineering technology fundamentals and an engineering technology specialization to be defined and applied engineering technology procedures, processors, systems or methodologies. 2. Identify, formulate, research literature and analyze broadly- defined engineering technology problem reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialization 3. Designs solution for broadly – define engineering technology problems and contribute to the design of system, components or processes to meet specified needs w/ appropriate consideration for public health and safety, cultural, societal and environmental consideration. 4. Conduct investigation of broadly defined problem; locate, search and select relevant data from codes, data bases and literature design and conduct experiments to provide valid conclusions | |
|  | e. | Select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to broadly-defined engineering technology activities, with an understanding of the limitations |
|  | f. | Function effectively as an individual and as member or leader in diverse technical teams |
|  | g. | Communicate effectively on broadly defined engineering technology activities with the engineering technology community and with social at large, by being able to comprehend and write effective reports and design documentation, make effective presentation and give and receive clear instruction. |
|  | h. | Demonstrate understanding of the societal health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice |
|  | i. | Understand and commit to professional ethics and responsibilities and norms of engineering technology practice. |
|  | j. | Understanding the impact of engineering technology solutions in societal and environment context and demonstrate knowledge of and need for sustainable development |
|  | k. | Demonstrate an awareness and understanding of management and business practices such as risk and change management and understand their limitations |
|  | l. | Recognize the need for, and have the ability to engage in independent and life-long learning |

|  |  |
| --- | --- |
|  | **COURSE SUMMARY** |
| **Course Code** | BET 6 |
| **Course Title** | TECHNOPRENEURSHIP |
| **Course Pre-Requisite/S** | 3RD YEAR STANDING |
| **Course Co-Requisite/S** | 3RD YEAR STANDING |
| **Number Units/No. Of**  **Hours Per Week** | 3 Units; 3 hours lecture per week |
| **Course Description** | This is a three-unit course designed to develop the entrepreneurial mindset of the students on their research and development outcomes particularly on establishing start-up and spin-off companies. This course also involves discussion on ideas generation, value proposition, technology validation, commercialization and licensing, feasibility and business plan models, venture capitalist, mind to market approach, angel investors and others. The final requirement of this course is a technology pitch demonstration. |
| Course Outcomes | By the end of this course, students will be able to:  CO1: Describe and explain the elements of technopreneurship including idea generation up to technology validation, commercialization, and the mind to market approach.  CO2: Analyze the key components of business enterprise including business and revenue models. CO3: Develop the knowledge and skills needed in technology innovation, commercialization and technopreneurship.  CO4: Perform technology demonstration pitch of a technology potential for commercialization. |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **COURSE LEARNING OUTCOMES MAP**  Legend: I-Introduced, E-Enabled, D-Demonstrate |  |  |  |  |  | | | |  |  |  |  |
| *At the end of the Semester, the students shall be able to:* |  |  |  |  | **Program Outcomes** | | | |  |  |  |  |
| a | b | c | d | e | f | g | h | i | j | k | l |
| CO1: Describe and explain the elements of technopreneurship including idea generation up to technology validation, commercialization, and the mind to market approach |  |  |  | I |  |  |  |  |  |  |  |  |
| CO2: Analyze the key components of business enterprise including business and revenue models. |  |  |  |  | **I** |  |  | **E** | **E** |  |  |  |
| CO3: Develop the knowledge and skills needed in technology innovation, commercialization and technopreneurship. |  |  |  |  |  |  |  | **E** | **E** |  |  |  |
| CO4: Perform technology demonstration pitch of a technology potential for commercialization |  |  |  |  |  |  |  |  | **E** |  |  |  |

|  |  |  |
| --- | --- | --- |
| **COURSE LEARNING OUTCOME DIRECT ASSESSMENT PLAN** | |  |
| Course Learning Outcome | % CLO | Assessment |
| CO1: Describe and explain the elements of technopreneurship including idea generation up to technology validation, commercialization, and the mind to market approach | 10% | Seatwork and assignments about the basic concepts in Technical Research |
| CO2: Analyze the key components of business enterprise including business and revenue models. | 30% | Major Exams and quizzes |
| CO3: Develop the knowledge and skills needed in technology innovation, commercialization and technopreneurship. | 20% | Case Study |
| CO4 : Perform technology demonstration pitch of a technology potential for commercialization | 40% | Pitching Demo |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | |  | |
| Week |  | Topics | Intended Learning Outcomes  (ILO) | Teaching and  Learning Activities (TLA) | Outcomes-Based Assessment (OBA) |
| 1 |  | Course Orientation   * Vision, Mission, and Goals * Syllabus * Orientation * Class Organization Course Description | . |  |  |
| 2 | CO1: | Introduction to  Technopreneurship  •History  •Etymology  •Nomenclature | ILO 1: Discuss the basic concepts of technopreneurship, terminologies and history | Discussion Group Reporting | Quiz |
| 3-6 | CO1 | **Legal Mandates of**  **Technopreneurship**  •Philippine Technology  Transfer Act (RA 10055)  •Philippine Startup Ecosystem  (RA 11337)  •Intellectual Property Code of  Philippines (RA 8293)  •CHED Memorandum Order  no. 57 s. 2016 •Ambisyon 2040 | ILO 2: Identify the governing  legal mandates of Technopreneurship | Brainstorming  Documentation’  Brainstorming  Needs Assessment  Interviews | Quiz |
| 7 | CO1 | Elements of Technopreneurship  •Entrepreneurial Mindset  •Innovation and Ideas  •Products and Services  •Team Formation | ILO 3: Identify the elements of Technopreneurship |
| 8 |  | Preliminary Exam |  |  | Written Exam |
| 9 | CO2 | Technology Identification  •Know-How  •Know-Who | ILO 5. Discuss what technology and technopreneurships | Discussion | Quiz |
| 10-11 | Technology Readiness Level (TRL) | ILO 6:Identify the levels of  Technology Readiness | Discussion | Quiz |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| Week |  | Topics | Intended Learning Outcomes  (ILO) | Teaching and  Learning Activities (TLA) | Outcomes-Based Assessment (OBA) |
|  | CO3 | **Creating Competitive**  **Advantage**  •Unique Value Proposition  **Customers and Market**  **Identification**  **•**Actual Technology Validation  **Industry Assessment**  **Business Model Venture**  **Proposal Technology-Based**  **Implementation Proposal** | ILO 7: Discuss the different areas in technopreneurship in terms of value proposition, customers and markets, industry assessments. |  |  |
| 12 |  | MIDTERM EXAM |  |  | Written |
| 13-15 | C03 | **Intellectual Property,**  **Commercialization and**  **Technology Licensing**   * Financial Analysis * Negotiation * Upfront and Milestone   Payment  Low-Fidelity Minimum Viable  Product   * Capital * Return of Investment * High-Fidelity * MVP Validation Part 1 * Hi-Fi MVP Validation Part 2 * Writing an Executive   Summary Worksheet | ILO 8: Discuss the commercialization, licensing and intellectual property matters in technopreneurship | Discussion Workshop and Group Dynamics  Simulation      Workshop and Group  Dynamics Writeshop | Quiz  Case Study        Executive Summary  Worksheet |
| 16 | CO4 | • Mock Technology Pitching Demonstration  •One-minute Elevator Pitch |  | Start Up Pitch | Video |
| 17-18 |  | Technology Pitching  Demonstration Day |  | Presentation | Final Exam |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| C**OURSE REQUIREMENTS and CLASS POLICY** | | | | | | |  |
| **Course Requirements** | | • Major assessments: Documents. Topic and Proposal Defense | | | | |
| **Class Policy** | | The students should:   1. Make-up quizzes will be given only with prior approval of the faculty and due to valid reasons. An excuse letter or medical certificate shall be provided together with the copy of the identification card of the parent/guardian. For excused absences during the major examinations, the university policy will be followed. 2. Students are not allowed to leave the classroom once the class has started, unless extremely necessary. Students who leave the classroom without any valid reason will be marked absent. 3. Students are expected to comply strictly with the university rule on dress code, class tardiness and attendance. 4. Cell phones or any electronic gadgets must be switched off or put in a silent mode during class hours, except when allowed by the faculty for activities that require use of such gadgets. 5. Assignments or projects submitted later than the one-week allowance or more on exceptional cases will not be accepted anymore. Students are expected to maintain complete honesty and integrity in their academic work. Acts of academic dishonesty, such as cheating, plagiarism, or inappropriately using the work of others to satisfy course requirements, will | | | | |
| Course Title    Bet 6-  Technopreneurship | Date Effectivity      SY 2025-2026 | | Revision No./Date    No. 2/ June 2025 | Prepared By    Ma IanP. De Los Trinos  Faculty | Reviewed By    Aimee G. Acoba  Department . Head | Approved By    Dr. May Ann Codera  OIC College Dean | |

|  |
| --- |
| **GRADING SYSTEM** |
| Major Exam - 30%  Quizzes - 15%  Case Study - 15%  Technology Pitching Demo - 40% **(Venture Journey)**  **Total 100%** |
|  |
|  |

|  |  |
| --- | --- |
|  | not be tolerated and may result in failure of the affected assignments or projects and/or failure of this course.  6. Attendance of the student is not part of the computation of the grade, but three consecutive absences or equivalent to 80 % of the total number of hours without valid reasons will result in automatic withdrawal from the class.    **Students with Special Needs:**  Students with special medical needs are advised to inform the faculty as to how he/she can best assist him/her. All information related to such medical needs will be considered confidential. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Course Title    Bet 6-  Technopreneurship | Date Effectivity      SY 2025-2026 | Revision No./Date    No. 2/ June 2025 | Prepared By    Minabelle D. Villafuerte  Faculty | Reviewed By    Aimee G. Acoba  Department . Head | Approved By    Dr. May Ann Codera  OIC College Dean |

|  |  |  |
| --- | --- | --- |
| Grade | Percentage Equivalent | Descriptive Rating |
| 1.00 | 99-100 | Excellent |
| 1.25 | 96-98 | Very Superior |
| 1.50 | 93-95 | Superior |
| 1.75 | 90-92 | High Average |
| 2.00 | 87-89 | Average |
| 2.25 | 84-86 | Low Average |
| 2.50 | 81-83 | Satisfactory |
| 1.75 | 78-80 | Fair |
| 3.00 | 75-77 | Passed |
| 5.00 | 74 and Below | Failed |
| OD |  | Officially Dropped |
| UD |  | Unofficially Dropped |

**LEARNING RESOURCES AND SUPPORT STRUCTURE**

**REFERENCES:**

Ries, E. (2017). The Startup Way, How Modern Companies Use Entrepreneurial Book.

Lechter, M. Hisrich, R. & Duening, T. (n.d.). Technology Entrepreneurship: Taking Innovation to the Marketplace

**Suggested Readings:**

Sison, L. (2018). Tech To Go, A Student’s Guide to Bringing Technology to the Market. Carreyrou,

J. (2018). Bad Blood: Secrets and Lies in a Silicon Valley Startup