their comparative effectiveness; Review of studies on the field trials of CTCA; Design of experiments for their projects and thesis examining the relative effectiveness of CTCA and other methods in promoting meaningful learning of STEM.

ACE 814: Theory and Practice of entrepreneurship I (3 C)
Towards Nigeria's quest for accelerated economic growth, it is important that active and virile youth population is assisted to develop and convert their innovative ideas into business ventures. These skills can be acquired particularly by those so innately inclined. This underscores the need to actively promote and train students to be entrepreneurial within our educational system. This course introduces students to the theory and practice of entrepreneurship. It focuses specifically on how and why some innovations are successfully commercialized, with particular emphasis on the role of the innovator-entrepreneur, with specific reference to science-driven innovation relevant to participants' programmes of study. The content include: Entrepreneurship: Beyond theory. Basic concepts in entrepreneurship. Developing a feasibility study and business plan. Setting Up and Running a Business in a Recession Post COVID-19. Intellectual Property Protection. Landmines in running a successful business and how to avoid them. Entrepreneurial opportunities in STEM. Case studies of successful practice in entrepreneurship-A Management Consulting Experience. Case studies of successful practice in entrepreneurship-An Educational Enterprise Experience. Running a web-based business in an e-commerce environment. Conceptualizing, planning, and starting a new, technology-based enterprise. Industry and Market Analysis. Resourcing and Finance: preparing financial projections and funding the venture. Leadership and Social Entrepreneurship

ACE 815: 21st Century Skills for the STEM teacher I (2 E)
This course is designed to equip students a broad set of knowledge, skills, work habits, and character traits that are believed to be critical and very important to survival and success in the 21st century contemporary learning, career building and workplaces and life generally. It is designed to prepare the Centre's postgraduate

science and technology. Presentations by students on the interphase of trends learned in the course and their proposed research topic.

ACE 913: The Culturo-Techno-Contextual Approach to STEM education and Research II (3C)

The Culturo-Techno-Contextual Approach (CTCA) is a key pillar on which the delivery system of LASU-ACEITSE rests. This course is designed to deepen students understanding and use of CTCA. It traces the history of the invention of the Approach and its field trials in breaking barriers to meaningful learning of STEM concepts. The content will include: Brief history of the invention of CTCA; Theoretical and philosophical underpinnings of the Approach; Role of culture in science teaching and learning; Indigenous knowledge systems (IKS) within the context of delivery of quality STEM education; Use of at least six methods of teaching STEM, highlighting their comparative effectiveness; Review of studies on the field trials of CTCA; Design of experiments for their projects and thesis examining the relative effectiveness of CTCA and other methods in promoting meaningful learning of STEM.

ACE 914: Theory and Practice of entrepreneurship II (3C)

To prepare students for the world of work as intrapreneurs or entrepreneur students need to develop Life skills. These includes, Assertiveness and self-confidence, presentations skills, proposal writing, risk management etc. All courses have practical contents. Students are to choose vocations of their interest from the attached list of approved vocations by levels. The course aims at re-orientating students towards a job- creation mind-set rather than the fixed attitude of job-seeking. It will equip them with the skills required in establishing businesses or making them add value to existing systems, if employed in organizations. This course introduces students to the theory and practice of entrepreneurship. It focuses specifically on how and why some innovations are successfully commercialized, with particular emphasis on the role of the innovator-entrepreneur, with specific reference to science-driven innovation relevant to participants' programmes of study. The content include: Entrepreneurship: Beyond theory. Basic concepts in

entrepreneurship. Developing a feasibility study and business plan. Setting Up and Running a Business in a Recession Post COVID-19. Intellectual Property Protection. Landmines in running a successful business and how to avoid them. Entrepreneurial opportunities in STEM. Case studies of successful practice in entrepreneurship-A Management Consulting Experience. Case studies of successful practice in entrepreneurship-An Educational Enterprise Experience. Running a web-based business in an e-commerce environment. Conceptualizing, planning, and starting a new, technology-based enterprise. Industry and Market Analysis. Resourcing and Finance: preparing financial projections and funding the venture. Leadership and Social Entrepreneurship. Family business and succession planning, Challenges of family business and sustainable family business model.

ACE 915: 21st Century Skills for the STEM teacher II (2E)

This course is designed to equip students a broad set of knowledge, skills, work habits, and character traits that are believed to be critical and very important to survival and success in the 21st century contemporary learning, career building and workplaces and life generally. It is designed to prepare the Centre's postgraduate students well enough to be able to help their own students develop the 21st century skills. Thus, during course presentation, practical exercises, scenarios and cases will be presented and discussed with the aim of helping students learn the 21st century skill in such a way that will assist them help others (especially their students) to learn the skills. The content include: Race and intelligence, Pandemics in history, The law and the STEM teacher, Learning skills for the 21st century (the 4C's - Critical thinking, creativity), collaboration, communication), Literacy skills for the 21st century (IMT - information literacy media literacy, technology literacy), Life skills for the 21st century (FLIPS): flexibility, Leadership, Initiative, Productivity, Social skills)

ACE 916: Advanced techniques in STEM laboratory/ workshop management (2C)