Louisiana Tech College of Engineering & Science Grand Challenge Scholars Program

Application & Curricular Plan

Name: _____

Classification (by year): _____

Major: _____

CWID: _____

Tech Email: _____

GC Faculty Mentor: _____

GC Focus Area: _____

(Choose from: make solar energy economical; provide energy from fusion; develop carbon sequestration methods; manage the nitrogen cycle; provide access to clean water; restore an improve urban infrastructure; advance health informatics; engineer better medicines; reserve-engineer the brain; prevent nuclear terror; secure cyberspace; enhance virtual reality; advance personalized learning; or engineer the tools of scientific discovery)

A completed application consists of the following:

1) A personal essay (1 page, 12-point font, double-spaced minimum) outlining why you are applying to the GCSP, what you hope to gain from it, the particular challenge you plan to work on and why, how your curricular plan contributes to the skillset you will need upon graduation to continue working on the challenge, etc.
2) Letter of recommendation from two faculty members, including your GC Faculty Mentor.
3) Your proposed GC Curricular Plan (on the form), which states your Grand Challenge Focus Area and how you plan to meet the five required curricular components (research, interdisciplinary curriculum, entrepreneurship, global dimension, service learning).

Applications are due in PDF format by the last class day of each quarter to be considered at the beginning of the following quarter. Please submit your completed application to:

latech.gcsp@gmail.com

Annual progress reports will be due towards the end of each school year. You will meet with your faculty mentor to help generate these reports to track your progress through the program.

5 GC Curricular Components:
Each GC Scholar Apprentice must develop a Curricular Plan which satisfactorily addresses each of the following components. Each GCSP Apprentice must complete at least **one of the five components at the Level 3** and at most one at the Level 1. On the lines below, please mark each part of the curricular plan with a "C" for an activity that is already completed and a "P" for a proposed activity.

1) **Research Experience -** One of the following research components:

_____ Level 1: GC theme-related freshman design project and course(s)

_____ Level 2: GC theme-related senior design project and course(s)
_____ Level 3: _____150 hours faculty-supervised GC-related research OR
_____ GC-related REU Program
AND
_____ A poster/presentation at a scholarly meeting OR
_____ A peer-reviewed technical publication

Additional information:_____
_____
_____

2) **Interdisciplinary Curriculum** – Each GC Scholar Apprentice must satisfactorily complete either:

_____ Living With The Lab Freshman Engineering Curriculum (ENGR 120, 121, 122), corresponding integrated mathematics (MATH 240, 241, 242) and science (CHEM 100, CHEM101, PHYS 201) courses, required by the engineering major
OR
_____ Integrated Science Curriculum (all math, chemistry, biology and physics courses, including labs, required by the science major)

AND one of the following courses:

_____ BISC 470 – Medical Ethics
_____ BLAW 255 – Legal Environment of Business
_____ HNRS 110 – Foundations of Sociological Thought
_____ POLS 350 – International Relations
_____ HNRS 114 – Foundations of Behavioral Thought
_____ HNRS 212 – Foundations of American Political Thought

3) **Entrepreneurship** – One of the following entrepreneurship components:

_____ Level 1: ____ Enter the Top Dawg Idea Pitch and complete through Investor Deck preparation
OR
____ Complete one of the following courses:
_____ ENTR 430 - Innovative Product Design
_____ ENTR 460 – Innovative Venture Research

_____ Level 2: Top Dawg up through Preliminary Round Participation

_____ Level 3: _____ Top Dawg Final Round Participation OR
_____ ENTR 430 - Innovative Product Design AND ENTR 460 – Innovative Venture Research

4) **Global Dimension** – One of the following global components (please specify the **program** and **quarter** pursued):

_____ Level 1: _____ GEOG 205 - Cultural Geography OR
_____ HNRS 114 - Foundations of Behavioral Thought

AND one of the following courses:

_____ GEOG 470 - Urban Geography
_____ HIST 406 - Modern Eastern Europe
_____ HIST 436 - History of the Modern Near East
_____ HIST 441 - History of Latin America since 1824
_____ SOC 360 - Sociology of Terrorism and Social Movements
_____ POLS 355 - American Foreign Policy
_____ POLS 350 - International Relations
_____ POLS 302 - Comparative Foreign Governments
_____ POLS 460 - Politics of Developing Nations
_____ POLS 465 - Asian Politics

_____ Level 2: _____ An internship with a significant global focus and GC theme OR
_____ A research experience with a significant global focus and GC theme

_____ Level 3: _____ A Louisiana Tech University Study Abroad Program with a GC theme OR
_____ An approved international study program with a GC theme OR
_____ A Bulldogs without Borders project (sustained contribution of a year or more)

For each of these options under the global dimension, students must submit a justification for how their proposed activity will help them cultivate an enhanced global awareness in their chosen field.

5) **Service Learning** – A sustained contribution of one or more years as one of the following. (Note that there does not exist a Level 1 Service option.)

_____ Level 2: _____ A Supplemental Instruction tutor OR
_____ A BARC tutor OR
_____ A Freshman Engineering Help Desk worker

_____ Level 3: _____ A Bulldogs without Borders project OR
_____ A Louisiana Tech Engineering and Science Association (LTESA) service project(s) OR
_____ E&S Magazine Staff OR
_____ An equivalent approved experience (fully describe below)

Additional information:_____
_____
_____

NOTES

1) ALL FINAL ATTEMPTS OF COURSES TO SATISFY THE GCSP MUST BE COMPLETED WITH A “B” AVERAGE.
2) COURSES AND CO-CURRICULAR ACTIVITIES CANNOT COUNT TO SATISFY MORE THAN ONE REQUIREMENT.

3) **Curricular Connectivity** – it is the GC Scholar Apprentice's responsibility to document how their GC Curricular Plan demonstrates intellectual and thematic connectivity across the five curricular components and a Grand Challenge theme or problem.

Questions about the **Louisiana Tech College of Engineering and Science GCSP?**

Check out the website at: http://coes.latech.edu/students/gcscholars.php or contact: Dr. Leland Weiss, Director, Grand Challenge Scholar Program at: IfM 210, lweiss@latech.edu