



Louisiana Tech College of Engineering & Science Grand Challenge Scholars Program



GC Curricular Plan

Name: _____

Classification: _____

Major: _____

GC Faculty Mentor: _____

If you have spoken with a faculty member who has agreed to serve as your Mentor, please list their name in the blank. If you would like assistance in securing a Mentor, please list "Mentor Requested" in the blank.

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 and 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)

5 GC Curricular Components:

Each GC Scholar Apprentice must develop a Curricular Plan which satisfactorily addresses each of the following components. **Note that this is a planning document which may change over time.** There is flexibility built into the Curricular Plan. The requirement is that a suitable option is met for each component and that all activities fit under a single GC Focus Area. You should work with your GC Faculty Mentor in developing and carrying out your Plan to ensure that all criteria are met.

1) Research Experience

_____ an approved team or independent senior capstone research project/course(s)*

Or

_____ an approved team or independent design project/course(s)*

Note that both of these must relate to a Grand Challenge theme or specific Grand Challenge problem.

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

_____ Living With The Lab Freshman Engineering Curriculum (ENGR 120, 121, 122) along with the corresponding integrated mathematics (MATH 240, 241, 242) and science (CHEM 100, CHEM101, PHYS 201) courses*

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

_____ HNRS 114 – Foundations of Behavioral Thought

_____ BLAW 255 – Legal Environment of Business

_____ HNRS 212 – Foundations of American Political Thought

_____ HNRS 110 – Foundations of Sociological Thought

_____ POLS 350 – International Relations

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

_____ A Grand Challenge-related project in the Top Dawg Business Plan Competition

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):

_____ a Louisiana Tech University Study Abroad Program

_____ an approved international study program

_____ an internship with a significant global focus

_____ a research experience with a significant global focus

Or

_____ GEOG 205 - Cultural Geography*, and one of the following courses*:

_____ HIST 406 - Modern Eastern Europe

_____ HIST 441 - History of Latin America since 1824

_____ HIST 436 - History of the Modern Near East

_____ POLS 460 - Politics of Developing Nations

_____ POLS 465 - Asian Politics

_____ GEOG 470 - Urban Geography

_____ POLS 302 - Comparative Foreign Governments

_____ POLS 350 - International Relations

_____ POLS 355 - American Foreign Policy

_____ SOC 360 - Sociology of Terrorism and Social Movements

For each of these options under the global dimension, students must submit a justification for how their proposed study program/internship/research experience/two courses will help them cultivate an enhanced global awareness in their chosen field.

5) **Service Learning** –One or more academic years as one of the following:

_____ a Supplemental Instruction tutor

_____ a Bulldog Achievement Resource Center (BARC) Tutor

Or

a sustained contribution for one or more years to one of the following:

_____ Engineers without Borders project(s)

_____ Louisiana Tech Engineering and Science Association (LTESA) service project(s)

_____ equivalent approved experience (fully describe below)

* ALL COURSES MUST BE COMPLETED WITH A GRADE OF “B” OR HIGHER IN EACH COURSE

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 GSCP?**

Check out the website at: <http://www.latech.edu/coes/gcscholars> or contact: Dr. Jenna Carpenter, Director, Grand Challenge Scholar Program at: jenna@latech.edu