ENERGY PORTION

EGR 102-Syllabus

COURSE TITLE: Introduction to Engineering Design (4 units)

Spring Semester 2020 – California Baptist University/ College of Engineering

GENERAL INFORMATION

Lectures: **Tuesdays** from 4:45–6:15 pm **or Thursday** from 3:45–5:15 pm
Location: **REMOTE INSTRUCTION** ~~(Yeager A112)~~

Instructor: **Dr. Mario A. Oyanader (Dr. O.)**
Office: **TEGR 349**
Remote Office:**https://calbaptist.webex.com/meet/moyanade**
Phone: **(951) 552-8493**
E-mail Address: moyanader@calbaptist.edu

Office Hours: Mondays, Wednesdays and Fridays from 12:00 pm – 2:30 pm. Also, appointments at different times are possible if I am available. It is always wise to warn me of your intent to meet. I do sometimes have other commitments, but I will try to give student conferences a high priority. In addition, I also encourage you to call if you have a short question. When you call, please have your work handy and give a clear description of what you have already done. On the other hand, if you send an E-mail asking for ***urgent help***, it is always good to ***provide a call back number*** to expedite getting back to you with an answer.

REQUIRED TEXT and MATERIALS

- Toossi, *Energy and the Environment: Choices and Challenges in a Changing World*. **4rd Edition.**
- ~~"CLICKER" Response Device~~ [Because of COVID it is NOT Required] ~~(Turning Point Technology, Models NXT, QT and QT2 or any other recommended by CBU Bookstore only).~~

PRE/CO –REQUISITES

None

COURSE WEBSITE – EGR 102 BLACKBOARD: From time to time, assignments and a variety of other resources will be posted to the class blackboard site. For this reason, students are expected to check this course web site and CBU e-mail at least once every 24 hours during the week. Your instructor may also use Blackboard to post class announcements and reminders. Blackboard can be accessed at http://calbaptist.blackboard.com or through the blackboard quick-link on the InsideCBU home page. Once you are logged into blackboard, click on the pertinent Section of the EGR 102 course. Click on any of the course content to find most posted materials. This course information sheet and course schedules will be posted under "Syllabus & Schedule" in case you misplace your copy.

COURSE DESCRIPTION (CATALOG)

Introduction to fundamental techniques used in engineering design and analysis. Different models of the design process will be examined. A collaborative team oriented design project will be undertaken.

COURSE PURPOSE AND OVERVIEW

The purpose of this course is to expose freshman engineering students to the elements of design projects and to the fundamental issues concerning energy use and energy sources with extensive use of hands-on activities and a project. There will be two parts to the course: a) the project and **b) the energy portions**. Both parts focus, to some degree, on the topics of **basic system analysis and design, and energy and the environment.**

Energy lectures, led by Dr. Oyanader, will focus on macro-energy issues and will include lectures, fundamental calculations, and discussion time. Lectures will cover key points in the required textbook. Students are expected to read assigned chapters before class (see tentative schedule). There will be pop quizzes and encouragement for participation in classroom discussions and hand-on sessions. Homework problems will be assigned and should be completed on an individual basis.

CLASS SCHEDULE: There are three different formats of classroom sessions: 1) 90 minutes of lab lecture per week, 2) 90 minutes of hands-on lab per week, and **3) 90 minutes of fundamentals lecture per week.**

MAIN GENERIC ABET ENGINEERING STUDENT OUTCOMES (SO) CRITERIA 3 (1-7):

SO 1 – an ability to ***identify, formulate, and solve complex engineering problems by applying principles*** of engineering, science, and mathematics.

SO 4 – an ***ability to recognize ethical and professional responsibilities*** in engineering situations and make informed judgments, which must ***consider the impact of engineering solutions in global, economic, environmental, and societal contexts***

COURSE GOALS & LEARNING OUTCOMES: By the end of this course, students should have a fundamental understanding of

1 Project design
2 Audience driven communication for project reporting
3 Successful elements of teamwork
4 How to be more successful with project work
5 Client focused deliverables, scope and communication
6 Project documentation
7 Issues related to energy resources and usage (**SO 1 and SO 4**)

COURSE REQUIEREMENTS (GRADING Policy)

Participation in Academic Environment	**5%**
Homework/Quizzes	**15%**
Final Exam	**10%**

Grading Scale: The following grading scale will be used.

93%-100% :	A	90%-93% :	A-		
87%-90% :	B+	83%-87% :	B	80%-83% :	B-
77%-80% :	C+	73%-77% :	C	70%-73% :	C-
67%-70% :	D+	63%-67% :	D	60%-63% :	D-
Below 60 : F					

Checking Grades: Grades for the Energy Portion will be posted on the *Blackboard* grade book in the Mega sections Web page. The tentative final grade is only a fraction of the overall course grade. The home course instructor is the one in charge of the overall grade for the course.

DESCRIPTION OF MAIN GRADE COMPONENTS

Participation in Academic Environment:
The primary criteria for this component is to be actively present in the Energy Portion of the course (It has a weight of 5%). Students are expected to work on in-class exercises, and be actively involved in class sessions by asking and answering questions. Additional points will be awarded at the instructor discretion when the student class involvement is excellent or above. Students are also expected to avoid causing distractions for the other students. Unexcused absences, working on material not related to the course, sleeping, and not following expectations are all ways to have the grade for this portion of the course reduced.

Homework:
Homework problems will be assigned and collected electronically in test form posted and taken on Blackboard. The problems will be based primarily on material covered in the energy lectures. *Homework assignments are due within a week and must be submitted at the start of the class period* unless otherwise stated. If you are late to class or miss class, your homework will be considered late unless prior arrangements have been made.

Quizzes:
Points can be earned by satisfactorily answering key critical thinking questions in written or ***clicker form***. Questions will come mainly from reading assignments and material covered in class. Quizzes may be given at any time to assess your preparation for class; however, a tentative schedule with quizzes expected date is provided on Blackboard.

Practice quizzes: (Not Graded)
Similar in content to in-class quizzes above, these has been made available on Blackboard for student to train themselves on the expected knowledge of the Energy portion of the course. Although practice quizzes give a feedback score, this has no effect on your class grade.

Missing a Quiz:
In case of an ***excused absence***, a missing quiz can be replaced by a practice quiz after instructor approval in written, in which case 3 attempts will be allowed. For the case of ***unexcused absence***, the same procedure applies; however, in this case only 1 attempt will be allowed. The grade that will be received is final for this quiz.

Final Exam:
There will be one final exam which will mainly cover the energy lecture portion of the course. **The final is problem based** and therefore it **will cover all major homework problems.**

Tentative Schedule:
The Energy and the Environment Lecture Series has a detailed calendar of activities which include the lecture topics, quizzes, homework assignments and more. You will find the tentative schedule posted on Blackboard under ENERGY PORTION Materials →"Schedule."
Please note: The instructor may need to vary the topics (including order and duration) during the semester. Also, the dates of the various activities and assignments are subject to change.

IMPORTANT POLICIES:

Attendance and Participation Policy – Don't skip class.
Attendance/Engaged will be taken using Blackboard and ***there will be a 10 15-minutes window to sign in electronically by responding quiz questions about the corresponding chapter*. Missing this time window for whatever reason (bad internet connection, unintentional distraction, needed to go to the restroom, etc.) will be considered absence It is the student's responsibility to make sure that he/she takes in-class quizzes as they count for attendance.**
Students must sign in for themselves. **Signing in for another student who is absent is considered academic dishonesty and will result in a grade of "F" for the course.**

Students are expected to attend class and participate in class exercises. Active participation in class will be an important part of learning course material. Not only is attendance part of the grading scheme, but excessive absences will

cause a reduction in course grade. If a student has more than 3 unexcused absences, the student's final course grade will be reduced by 10 percentage points (one letter grade). If the student has more than 6 unexcused absences, the student will fail the course. At the discretion of the instructor, tardiness may be counted as unexcused absences. Excused absences are allowable. But the instructor **must** be notified and approve it **before** the lecture or lab (in the case of an emergency, notify the instructor within 24 hours after the lecture or lab takes place and show evidence from doctor, police, or other relevant agencies). For both excused and unexcused absences, the student is responsible for any missed announcements or material. Also note that absences will affect your contribution to your team project and can result in lower peer evaluations which will negatively affect your grade.

Tardy Policy: Punctuality is a practice valued by business and society. Don't be late to class. After the first three tardies the student will be considered absent for one additional class meeting. Subsequent tardies will be considered additional one absence each to class meetings.

Late Policy
Homework turned in late (after the due time) but before 24 hours after the due time will be penalized 20 percentage points.

Make-up Policy:
Makeups for missed exams, quizzes, and presentations will be allowed in the event of an illness or emergency, but the instructor **must** be notified and approve it **before** the exam, quiz, or presentation (in the case of an emergency, notify the instructor within 24 hours after the exam, quiz, or lab takes place). In all cases the student must show evidence from a doctor, police, or other relevant agencies as proof of illness or emergency. **There will be no makeups for unexcused absences or absences notified after 24 hours of the exam or quiz.**
If a student needs to miss an exam or quiz for an official, unavoidable university event (e.g. athletic competition and choir performance), the instructor needs to be notified by a university official prior to the event, and the student is responsible for contacting the instructor and making arrangements for a make-up at least one week prior to the exam, quiz, or presentation. **There will be no makeups if the student does not communicate with the instructor and make arrangements at least one week prior to the exam or quiz.**

Finals Week Policy:
Students are always expected to take examinations at the time they are scheduled. This is especially the case for final examinations, which must be taken at their scheduled times, announced in writing at the beginning of the semester. Students desiring an exception must submit a written request to the Vice President for Academic Affairs. Exceptions will only be made in the case of serious illness or the death of an immediate family member. Reasons such as plane schedules, availability of flights, and rides leaving early are not acceptable as exceptions.

SPECIFIC EXPECTATIONS

Academic Integrity - Discussion of homework assignments with other students is generally encouraged, unless specifically prohibited by the instructor. All homework submitted for grading, however, must be your own. The exam and quizzes are to be individual effort only. There is to be no communication whatsoever about course or exam material during the exam or with individual students who may be taking the exam at a different time. Also, teams need to carefully document ideas or material taken from other sources. Any evidence of plagiarism, academic dishonesty, or other violations of the CBU Honor Code may constitute grounds for a failing grade in the course. No cheating of any kind is permitted or tolerated. For further guidance please refer to the CBU Student Handbook for the CBU Honor Code and to the College of Engineering Policy on Academic Integrity.

Professionalism Your performance in the professional, non-technical aspects of the course may become an important element of assessment of your engineering readiness. We base it upon your interactions with any of the class members and facilitators. Rubrics for assessments are:

- ✓ Taking ownership of course and all assignments,
- ✓ Being on time for all meetings,
- ✓ Developing and adhere to a reasonable schedule for each assignment or project in spite of many and varied distractions,
- ✓ Development of communications and interpersonal skills,
- ✓ Cooperate actively and interact effectively with instructor,

- ✓ Willingness to assume leadership roles,
- ✓ Providing assistance to your classmates or team members when so requested, i.e., being a facilitator, and promote teamwork,
- ✓ Avoiding dysfunctional/disruptive behavior,

Academic Environment - Students are expected to encourage and maintain a positive learning environment that is reflective of a "Christian community of learners." Actions and behavior that distracts fellow students or is disruptive in the classroom will not be tolerated. To help maintain a positive learning environment, the following policies will be enforced:

- **Keeping your microphone unmuted and disrupting the class with background noise is prohibited.**

Inability to follow these rules will lead to a reduction in the "Academic Environment" portion of the grade and could lead to removal from the classroom for that day (and this would count as an unexcused absence).

Electronic Communication (Email/Blackboard/InsideCBU) - Many materials associated with this course (homework, solutions, etc.) will be posted on Blackboard. Plan to check it on a regular basis. In addition, it is my expectation that you will check your CBU e-mail address at least once every 24 hours during the week.

Students with Disabilities - Students who have qualified disabilities and wish to arrange the appropriate accommodations, in addition to the general academic support services coordinated by the Academic Resources Center, must identify themselves to the Director of Disability Services. Disabled students who wish to arrange appropriate accommodations must complete and submit a Request for Accommodations form and provide recent (not older than 3 years) diagnostic test results. Students must also notify the instructor at the beginning of the course, indicating his or her desire to receive appropriate accommodations and, for the case of exams, make arrangements with the instructor at least one week prior to the exam.