Syllabus v1 – ENE 55400 – Globalization and Engineering (3 credits, Spring 2021)
CRNs: 23934/23935 (on-campus), 30401 (online), 31731 (EPE)
Instructional Modality: Synchronous-Online
Synchronous online class meetings: Thursdays, 7-8:50 PM EST via Zoom

INSTRUCTOR
Prof. Brent K. Jesiek (ARMS 1313 or WANG 3565, 765-496-1531, bjesiek@purdue.edu)
Office Hours: By appointment

COURSE DESCRIPTION
The focus of this course is on the multifaceted economic, social, cultural, and technological dynamics of globalization, including associated impacts on engineering education and practice. The course emphasizes engineering, globalization, cultural identity, and society primarily from the perspectives of the emerging Asian economies and Europe, as well as the United States. The course includes a number of historical and contemporary case studies, offering opportunities for exploration of topics and themes such as global knowledge economies and migration, international and transnational institutions, and international development. It is taught within a student-centric, highly interactive, collaborative learning environment in which students are expected to learn from one another, as well as from the instructor and other course resources. The course places particular emphasis on oral and written communication skills, intercultural development, web-based research, and information literacy. Globalization and Engineering is designed for engineering students, educators, and practicing professionals who have engaged, or expect to engage, with global or multicultural projects.

LEARNING OBJECTIVES (as formally approved)
1. Increased global awareness.
2. Knowledge of the dynamics of globalization as an economic and social process including contrasting theories and interpretations of events.
3. Knowledge of how globalization is studied and characterized by economists, political scientists, and sociologists.
4. Ability to interpret studies and research on globalization.
5. Increased understanding of the nature and roles of engineering education and life-long learning within the globalization dynamic.
6. Advanced understanding of the innovation process within a global enterprise including contrasting theories and the ability to analyze specific cases.
7. Increased ability to lead and innovate within a rapidly globalizing profession.
8. Knowledge of the engineering profession, engineering education, and globalization from the perspectives of countries beyond the United States, particularly perspectives from Europe and the emerging economies of Asia.

LEARNING RESOURCES, TECHNOLOGY & TEXTS
There is one recommended textbook for this class:

Beck, U. (2000). *What is Globalization?* Cambridge, UK: Polity.

All other assigned readings will be posted to the BrightSpace course web site, and/or available via Purdue Libraries. The typical weekly reading load for this course is expected to be around 50-75 pages, on average.

The synchronous online class meetings will take place via Zoom. Students are expected to have an appropriate device (PC, laptop, or tablet), quality camera and microphone, and reliable high-speed Internet connection to fully participate in the weekly class sessions.

COURSE TASKS AND GRADING GUIDELINES

There are three central course tasks:

Tasks	Weight	Process and grading guidelines
Engagement - Synchronous class participation (CP)	25%	*Due weekly* Engagement includes attendance, evidence of preparation for class (i.e., has done the readings), and active participation during class sessions. Graded based on the following guide: 2 = satisfactory 1 = unprepared and/or partial absence 0 = absent
Engagement – Asynchronous learning activities (LA)	25%	*Due weekly when another assignment is NOT due* One post and two replies due on designated weeks and graded on a 3-point scale. A grading rubric for discussion posts is on the BrightSpace course site.
3 formal writing activities	50% total (15%, 15%, 20%)	*Due weeks 6, 11, and Finals week* The feedback criteria are based on "scope", "grounded", "engaging", "organization", and "writing quality." The final grade is based on incorporating feedback related to the criteria.

Engagement - Synchronous online class participation (CP)
The majority of our class times together will be organized around different kinds of conversations and discussions, both in small groups and large groups. To participate in these conversations, you must be present in class. **If you must miss class, please alert the instructor in advance (even the day of class).** We expect you to come to class on time, and we expect you to be focused on our class material during class.

Please realize that your absence affects not only your participation, but also that of your peers who miss out on your participation. **To make up your absence**, you are expected to do make-up work, which must be completed by the last week of class. Three suggested possibilities: 1) Make a significant contribution to the discussion board during OPTIONAL/BONUS weeks, 2) Write up and post a substantial summary and review of an

article, case study, or book that is related to the course, or 3) Schedule an individual meeting to debrief your Intercultural Development Inventory (IDI) assessment results.

Absences where you did not let the instructor know in advance, and/or for which you do not do make-up work, will result in deductions to your overall course grade.

Engagement – Asynchronous learning activities (LA)
During weeks when another major assignment (i.e., formal writing assignment) is not due, you will be expected to complete learning activities that challenge you to critically reflect on the readings, identify and share other materials relevant to a given week's topic, and/or work in groups on other types of tasks. These activities may require you to write up and share/post individual work (e.g., a written reflection document) or a group response (e.g., a case study analysis). You will also be asked to read and respond to the work of others. A detailed schedule and deadlines for these learning activities will be posted and reviewed at the start of the semester. The goal of these activities is to help you prepare for class discussion, develop your reflective thinking and writing skills, explore new insights, and inform other writing tasks. These materials also help the instructor prepare for class. We would like to help you feel comfortable actively participating in future communication forums, and hope that providing you with a more protected forum for your initial forays through the course discussion site in BrightSpace will aid you in this endeavor.

Formal writing assignments
There will be 3 major writing assignments where you will be asked to explore themes from assigned readings and class discussions. As such, they are opportunities to: (1) synthesize and relate key issues and their importance, (2) practice producing different types or styles of written work, and (3) practice and further develop your academic writing skills.

The first essay is on the topic "What is Globalization?" and should be between 5 and 7 pages in length. The objective of this assignment is to help you articulate your own understanding or definition of globalization based on published literature and your own experiences.

The second and third essays should be tailored to your professional goals and the professional development you seek from this class. Along with your first essay on "What is Globalization?", these three pieces will constitute a portfolio of work that can guide your engagement in the globalized engineering workplace and/or higher education sector.

For the second and third essays, you will choose from the following options:

- Policy brief – a well-argued synthesis of a specific policy issue related to global engineering, technology, and/or other related themes.
- Academic blog post – a persuasive, public-facing position piece for a specific audience (e.g., academic, industry, policy, etc.).
- Industry case study memo – a thorough analysis of an industry or NGO program or product; or analysis of a project, failure or situation experienced by you or others.

- Research prospectus – project summary to an NSF-type organization (could be in a different national context) proposing to study a global engineering or related issue.
- Industry proposal – a presentation to a potential industry or NGO partner for a program or project that addresses an engineering issue in a globalized context.
- Intercultural development plan (IDP) – following an individual meeting to debrief on individual IDI results, develop an essay based on the IDP reflection prompts.
- Other – some other major product related to the course themes and aligned with the student's goals, but ONLY after discussion with and approval from the instructor.

Two weeks before each writing activity is due there will be an opportunity to share preliminary ideas. One week before due there will be an opportunity to get peer feedback on an initial draft or outline. IMPORTANT: You are required to submit your draft, and also document the feedback you receive and submit these notes with your final draft. Drafts are evaluated as Acceptable (2 points), Underdeveloped (1), or not submitted (0) based on two criteria: adequate length (2-3 pages), and evidence of substantial effort creating the draft.

All written work should be formatted with a 12 point font, double line spacing, pages numbered, and submitted as a PDF file to the appropriate BrightSpace dropbox.

The formal writing assignments will be evaluated based on the following feedback criteria:
- Scoping (i.e., suitable scope, substantively addresses guiding questions, clear thesis);
- Grounded (i.e., connected with literature from class, effective use of evidence)
- Engagement (i.e., clear argument, persuasive and compelling presentation of ideas)
- Organization (i.e., coherent micro- and macro-structure, organized around thesis)
- Writing quality (i.e., effective use of language, appropriate grammar, citations, tone)

We will use the following grading scale for the formal writing assignments:
- 0   not turned in
- 1-3 needs extensive revision (not grounded, unclear, poor organization, not engaging)
- 4-6 sound ideas, but not fully persuasive (needs improvement in multiple categories)
- 7-9 excellent (complete, grounded, clearly written and organized, engaging)

Course grading and expectations
The instructor views grading as a tool to give formative feedback to students rather than an evaluative power that instructor hold over students to engender good behavior. It is presumed hat you are in this class because you are interested in the material, and will use grades to give you feedback on how we feel you are achieving the course objectives.

The essence of an "A" grade (A+/A/A-) is **satisfactory** or **outstanding** participation in class and on assignments. Achieving this level of performance requires active and thoughtful participation in all class meetings, incorporating feedback from the instructor and peers into revisions of papers, completing all reflections at a satisfactory level, and receiving a mix of acceptable and commendable evaluations on all major assignments.

The essence of a "B" grade (B+/B/B-) is **adequate** participation in class and work on assignments. Achieving this level of performance attending most classes (and/or making up absences as appropriate), turning in and receiving satisfactory evaluations on most of the weekly reflections, and achieving a mix of underdeveloped and acceptable evaluations on all major assignments. We consider this to be the **minimum** in participation.

A "C" grade represents **unsatisfactory** performance, likely due to multiple missed classes and/or weekly reflections, major writing assignments that are underdeveloped, and an overall lack of engagement. Note that "C" grades typically cannot be counted on a graduate student's plan of study, and therefore represent unsuccessful course completion.

If you have concerns with your participation, or with anything else in this course, **contact the instructor AS SOON AS POSSIBLE.** We have worked with students with special needs and circumstances, but can only do so if you let us know in a timely manner!

CLASS PARTICIPATION DURING COVID
Students are expected to attend all of our schedule online classes unless they are ill or otherwise unable to attend class. If they feel ill, have any symptoms associated with COVID-19, or suspect they have been exposed to the virus, students should stay home and contact the Protect Purdue Health Center (496-INFO).

In the current context of COVID-19, attendance cannot be a factor in the final grades. However, timely completion of alternative assessments can certainly be part of the final grade. Students need to inform the instructor of any conflict that can be anticipated and will affect the timely submission of any assignment.

Classroom engagement is extremely important and associated with your overall success in the course. The importance and value of course engagement and ways in which you can engage with the course content even if you are in quarantine or isolation, will be discussed at the beginning of the semester.

Only the instructor can excuse a student from a course requirement or responsibility. When conflicts can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible (see above). For unanticipated or emergency conflicts, when advance notification to an instructor is not possible, the student should contact the instructor as soon as possible by e-mail, through Brightspace, or by phone. In cases of bereavement, quarantine, or isolation, the student or the student's representative should contact the Office of the Dean of Students via e-mail (odos@purdue.edu) or phone at 765-494-1747.

INSTRUCTOR RESPONSE AND FEEDBACK POLICY
For all inquiries from students (via e-mail or phone) received during the week (Monday to Friday), the instructor is committed to responding within 24 hours. For inquiries received on the weekend (Saturday and Sunday), the instructor will respond within 48 hours.

The instructor is committed to providing feedback and grades for all major assignments within one (1) week of indicated due dates. The instructor will also make timely updates to the course gradebook for all other course tasks and requirements (class participation, etc.).

ACADEMIC INTEGRITY

Please review the university's **academic integrity** policy, paying particular attention to issues related to paper writing. As this policy states:

> Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty" (Part 5, Section III-B-2-a, Student Regulations). Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest" (University Senate Document 72-18, December 15, 1972).

We take these issues very seriously, and will discuss more specific considerations before the first essay is due. The university's complete academic integrity policy can be found at: http://www.purdue.edu/odos/osrr/resources/documents/academic_integrity.html

EQUITY, RESPECT, AND NONDISCRIMINATION

Every voice in the classroom has something of value to contribute to class discussions. Please respect the diverse experiences, beliefs and values expressed by your fellow students and instructor, and refrain from derogatory comments about other individuals, cultures, groups, or viewpoints. The School of Engineering Education supports Purdue University's commitment to diversity, and welcomes individuals of all ages, backgrounds, citizenships, disabilities, education, ethnicities, family statuses, genders, gender identities, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences. Purdue's Nondiscrimination Policy is at: https://www.purdue.edu/purdue/ea_eou_statement.php

ACCESSIBILITY

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

MENTAL HEALTH AND WELLNESS

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

EMERGENCY PREPARATIONS

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the BrightSpace course site or can be obtained by contacting the instructor via e-mail or phone. You are expected to read your @purdue.edu email on a frequent basis.

COURSE SCHEDULE (Topical Overview)

NOTE: A detailed course schedule will be developed and released prior to the start of the semester. Some topical adjustments may also be made based on student input and interest.

Week	Topic
Part 1: Globalization	
1	What is Globalization - Introduction
2	What is Globalization - Definitions and Framing
3	Critical Perspectives on Globalism and Globalization
4	Governance: Local, National, Regional, Global
Part 2: Global Engineering	
5	What is Global Engineering? What is Culture?
6	Global Engineering Case Studies
7	International Development and Humanitarian Engineering
8	What is Global Engineering Education? History, Competencies, Interventions
9	Intercultural Development Workshop
Part 3: Engineering Cultures	
10	Introduction to Engineering Cultures: Cross-National Perspectives
11	Engineering Cultures: European Case Studies
12	Engineering Cultures China: Rise of the Red Engineers
Part 4: Special Topics and Course Synthesis	
13	Special Topic: Engineering and Global Climate Change
14	Special Topic: TBD
15	Course Synthesis and Wrap-up