

## **ENGR 301: Engineering Communications and Societal Integration**

### **Course Overview**

**Location:** WPEB 240  
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**Office Hours:** Tues/Thurs 11:00-11:45am in SEM 240 or schedule an appointment

### **Course Description**

ENGR 301 Engineering Communications and Societal Integration (3+0) 3 credits; course is for credit only. Researching and applying science and technology in societal context; integrating and synthesizing knowledge; communicating information and knowledge via oral, written, and visual presentation. Course must be taken in residence; substitutions or waivers are not permitted.

### **Prerequisites**

General Education courses (CO1-CO3) completed; at least three courses from CO4-CO8 completed; junior or senior standing; PHYS 181 with a "C" or better. May be used to satisfy: Core Capstone; CO9 (Science, Technology, & Society); CO13 (Integration & Synthesis); ABET Criteria 3, 4, 5, and 7.

### **Required Course Material and Resources**

Students are required to have access to the following: computer, printer, internet access, regular WebCampus access, Microsoft Office, PDF reader, web-enabled camera, microphone, video-viewing access, and note-taking materials. Students may need to provide photo identification. For final presentations and professional development opportunities throughout the term, professional attire is also highly encouraged.

Supplemental readings and materials will also be provided. Resources from the University Knowledge Center, DeLaMare Library, and other libraries/labs are strongly recommended for research. Classroom supplies will be provided when needed.

Content accessibility statement: This course may leverage third party web/multimedia content. If you experience any issues accessing this content, please notify your instructor.

## Student Learning Objectives

The course adheres to four Student Learning Objectives (SLOs). The SLOs are organized into the Silver Core Objectives categories. Notations are related to accreditation bodies and integration of other Silver Core Objectives.

*Core Objective 9 (Science, Technology, & Society):* Students will be able to connect science and technology to real-world problems by explaining how science relates to problems of societal concern; be able to distinguish between sound and unsound interpretations of scientific information; employ cogent reasoning methods in their own examinations of problems and issues; and understand the applications of science and technology in societal context.

1. Students will have an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. [ABET #4; integrates CO11; CO12]
  - a. Recognize the professional, ethical, and legal responsibilities in engineering situations.
  - b. Analyze how scientific, technological, and engineering solutions impact global relations, the economy, the environment, and society.
  - c. Make informed judgements based on ethical, professional, global, economic environmental, and societal factors.

*Core Objective 13 (Integration & Synthesis):* Students will be able to integrate and synthesize Core knowledge, enabling them to analyze open-ended problems or complex issues.

2. Students will have an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. [ABET #5; integrates CO1]
  - a. Demonstrate leadership by managing a team structure and using project management tools.
  - b. Articulate the components of creating a collaborative and inclusive environment.
  - c. Establish and document achievement of goals, objectives, and tasks.
3. Students will have an ability to communicate effectively with a range of audiences. [ABET #3; integrates CO1]
  - a. Produce content in which the topic is identified and explained with technical breadth, depth, and professionalism.
  - b. Integrate sufficient and appropriate supporting evidence, details, or sources.
  - c. Adjust communication style, vocabulary, and visual representations to accommodate different audiences (non-technical, technical, and governing agency) for written reports.
  - d. Adjust communication style, vocabulary, and visual representations to accommodate different audiences (non-technical, technical, and governing agency) for presentations.

4. Students will have an ability to acquire and apply new knowledge as needed, using appropriate learning strategies. [ABET #7; integrates CO3]
  - a. Acquires new knowledge, skills, and perspectives by participating in self-directed or team-based learning activities.
  - b. Applies new knowledge, skills, or perspectives to produce a desired outcome or product.

## **Course Requirements**

To help students acquire the competencies described in the Core Objectives and Student Learning Objectives, students will complete four major grading blocks: Project Management Presentation, Design Review Written Report, Knowledge Assignments, and Poster Session. Students create teams (average team size of four students), and they are responsible for managing a project to analyze an engineering solution.

Students are held to the University defined academic standards. They must complete forms to acknowledge academic standard policies, and material must be submitted to the TurnItIn function of WebCampus when requested. Misconduct charges may be filed for material flagged as plagiarism by TurnItIn. Failure to complete these components may result in administrative withdrawal or course failure.

## **Attendance Policy**

Students are expected to attend in-person lectures at the scheduled time to earn credit for activities and discussions. Institutionally approved absences must be communicated to the instructor with 24-hour notice and appropriate documentation. The instructor understands that some absences are a necessary part of any workplace; absences must be communicated to the instructor, in advance if possible, for makeup opportunities.

## **Make-Up Policy**

Students may submit a make-up assignment for emergencies, institutionally-approved absences, and other approved prearranged absences only. The request needs to be communicated to the instructor so that the make-up work and new deadline can be arranged. Students may also request permission to use the Improvement Portfolio assignment for a second attempt at major missed assignments.

## **Late Work Policy**

Students are expected to submit all assignments by the specified deadline. In cases where emergency or personal circumstances prevent completion or submission of the work on time, the issue should be communicated to the instructor so that an accommodation can be arranged. Late work will be accepted only with prior communication and, in non-approved circumstances, may include a penalty.

## Communication Expectations

Communication of class notifications (class cancellations, changes, opportunities, and events) will be provided with WebCampus announcements. For instructor communication, please use either the instructor email or WebCampus messaging. Messages will be answered as soon as possible on business days (Monday – Friday). This course will be facilitated, to the best of ability given requirements, like a business. For any absences, questions, concerns, or issues, please reach out to the instructor in a timely manner. Communication is expected to be professional, including all email and in-person correspondence. Respectful feedback and discussions are always welcome and encouraged in this course.

## Course Structure

ENGR 301 follows an in-person meeting structure with resources and materials available online. Students will be required to access materials and complete assignments online using WebCampus. Additional course material and administrative details are available in WebCampus.

## Class Sessions

The class section numbers, meeting times, and locations are shown:

Section	Meeting Time	Location	Final Exam
1004	Tues/Thurs 1:30 – 2:45	WPEB 240	May 14, 12:45-2:45pm
1005	Tues/Thurs 3:00 – 4:15	WPEB 240	May 9, 3:00-5:00pm

## Major Assignment Schedule

A complete list of all assignments and deadlines is available in WebCampus. A schedule for major assignment due dates is shown:

Date	Assignment
Week 1 (Jan. 22-26)	Academic Standards Form
Week 6 (Feb. 26 – Mar. 1)	Project Management Presentation
Week 12 (Apr. 19)	Design Review Written Report
Prep Day (May 8)	Improvement Portfolio
Scheduled Final Exam	Poster Session
Dates in WebCampus	Knowledge Assignments

## **Lecture Activities**

Instructors will provide weekly lecture content in-person during the scheduled lecture time. Most lectures will include an activity to practice skills and work in teams toward larger assignments. Professional and earnest participation in lecture activities is required to earn points.

## **Presentation Assignments**

Students will deliver short, impromptu presentations during activities to practice presentation skills. Students will have opportunities to practice both in-person and pre-recorded presentations for assignments. Most presentations will require the use of visual aids to illustrate concepts and enhance audience engagement.

## **Written Assignments**

Students will research engineering impacts and demonstrate a variety of professional writing styles with written assignments. Several workshops will be provided to show students different styles and formats to develop effective and efficient technical writing skills.

## **Improvement Portfolio**

Students will have the opportunity for a second attempt at major assignments using the Improvement Portfolio. Near the end of the semester, students may request approval to revisit certain assignments and compile the new work into a portfolio, demonstrating their growth and improvement from the semester. The Portfolio work will be graded using the same standards as the first attempt, and the higher of the two grades will be applied.

## **Final Exam Poster Session**

Students will work in their teams, applying their cumulatively learned skills and research, to create a technical poster on societal impacts. The poster will need to incorporate course themes of professional, ethical, economic, environmental, global, and societal impacts. The final poster session will include two components:

1. A poster illustrating the engineering design impacts and recommendation. The poster will be presented at the session, and a digital copy of the poster will be uploaded to WebCampus.
2. A short pitch describing the poster content to an audience member.

Students will be introduced to the final project earlier in course and will be provided multiple scheduled workshop times to work on completing the poster. Each team will be allotted course funds to print one, standard poster for display at the final poster session. The teaching team may also include invited guests to attend the session to ask the teams questions and celebrate the team's work.

## Topics Outline

Week	Module	In-Class Activity	Assignment Due
1	Course Introduction and Professional Skills	Networking Resume Draft	--
2	Professional Skills and Interview	Questions Interview	--
3	Project Management	PM Workshop 1 PM Workshop 2	PM Workbook
4	Presentation Skills	Audience Engagement Recovery	Video Presentation
5	Project Management Wrap-Up	Holiday (no class) PM Rehearsal	--
6	Project Management Presentations	Audience Participation	PM Presentation
7	Engineering Writing and Instruction Manuals	Writing Workshop 1 Build Workshop	Instruction Manual
8	Professional and Ethical Impacts	Agency Workshop Ethics Game	Business Letter
9	Environmental and Economic Impacts	DR Workshop 1 DR Workshop 2	--
10	Research, References, and Writing to Prompts	Writing Workshop 2 References Workshop	DR Workbook Find Journal Paper
11	Report Drafting and Editing	Journal Paper Individual Draft 1	--
12	Accessibility, Formatting, and Team Compilation	Individual Draft 2 Team Draft	Design Review
13	Societal Impacts and Poster Designing	Societal Workshop Team Workshop 1	Poster Workbook
14	Poster Wrap-Up and Workshop	Pitch Workshop Team Workshop 2	--
15	Portfolio and Poster Workshop	--	Portfolio (optional)
16	Final Exam Poster Session	--	Poster Session

## Grading Criteria

The grading criteria are provided for the four major assignment blocks:

Assignment	Points
Project Management Presentation	200
Design Review Written Report	200
Knowledge Assignments	400
Poster Session	200
Total	1,000

## Grading Scale

The course uses a point-based system to assign the final, course letter grade. The grading scale is based on 1,000 points as shown:

Points	Letter Grade
1000.0 to 940.0	4.0 (A)
939.9 to 900.0	3.7 (A-)
899.9 to 870.0	3.3 (B+)
869.9 to 840.0	3.0 (B)
839.9 to 800.0	2.7 (B-)
799.9 to 770.0	2.3 (C+)
769.9 to 740.0	2.0 (C)
739.9 to 700.0	1.7 (C-)
699.9 to 670.0	1.3 (D+)
669.9 to 640.0	1.0 (D)
639.9 to 600.0	0.7 (D-)
599.9 or below	0.0 (F)

## Standards-Based Grading

Standards-based grading and assessing are applied for major assignments. This grading method relates to the strategic plan of creating a globally competitive education. A comparison of traditional letter grade expectations to standards-based grading levels is shown:

Letter Grade	Expectation
A	Masters - Significantly exceeds minimum requirements in all assignments; demonstrates original, innovative, creative, and effective content to engage and inspire audiences while being concise and adhering to all requirements; displays advanced understanding of all concepts; masters course content and is able to instruct others on the material; engages in critical thinking
B	Proficient/Meets - Exceeds minimum requirements in most areas showing originality; effectively uses creativity to develop engaging content while being concise; learns the course content sufficiently enough to develop examples
C	Satisfactory/Approaching – Meets minimum requirements in all areas; accomplishes the defined task; needs development, refinement, or innovation; missing elements of originality
D	Unsatisfactory/Below – Meets minimum requirements; demonstrates fundamental flaws in accomplishing the defined task; does not demonstrate course content knowledge
F	Fails – Incomplete or inaccurate; no submission; does not meet minimum requirements
+/-	Adjustments to reflect variations within letter grade category.

## Policies and Resources

### Academic Dishonesty

The University Academic Standards Policy defines academic dishonesty, and mandates specific sanctions for violations. See the University Academic Standards policy: [UAM 6,502](#).

### Academic Success Services

Your student fees cover usage of the [University Math Center](#), (775) 784-4433; [University Tutoring Center](#), (775) 784-6801; and [University Writing & Speaking Center](#), (775) 784-6030. These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

### Disability Services

Any student with a disability needing academic adjustments or accommodations is requested to speak with me or the [Disability Resource Center](#) (Pennington Achievement Center Suite 230) as soon as possible to arrange for appropriate accommodations.



## Audio and Video Recording

Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped, or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

Class sessions may be audio-visually recorded for students in the class to review and for enrolled students who are unable to attend live to view. Students who participate with their camera on or who use a profile image are consenting to have their video or image recorded. If you do not consent to have your profile or video image recorded, keep your camera off and do not use a profile image. Students who un-mute during class and participate orally are consenting to have their voices recorded. If you do not consent to have your voice recorded during class, keep your mute button activated and only communicate by using the "chat" feature, which allows you to type questions and comments live.

## Safe Learning Environment

The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University's Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit the [Equal Opportunity and Title IX](#) page.

## Professional Conduct Expectations

Students shall always conduct themselves in a professional manner. If behavior is disruptive or offensive, the instructors reserve the right to dismiss or remove the student from the class and any online class materials. Such behavior includes inappropriate comments or behavior toward the instructor or fellow students, both in person and online. Maintaining a safe learning environment based on mutual respect and civility is a course priority. All participants in UNR courses are expected to behave professionally by adhering to these standards of conduct:

- Respect others and engage in active listening
- Assume positive intent when possible; mistakes can be corrected
- Appreciate diverse perspectives; provide thoughtful feedback
- Actively participate in activities; avoid distractions
- Never use harassing, threatening, embarrassing, or abusive language / actions
- Never transmit or promote content known to be dishonest or illegal

Repeated misconduct may result in receiving a grade penalty or being dismissed from the course. Such misconduct may also be reported to officials for appropriate action in accordance with University policy. If a student should ever feel that any behavior is inappropriate or uncomfortable, please first contact the instructor.

## **Student Compliance with University Policies**

In accordance with section 6,502 of the University Administrative Manual, a student may receive academic and disciplinary sanctions for failure to comply with policy, including this syllabus, for failure to comply with the directions of a University Official, for disruptive behavior in the classroom, or any other prohibited action. "Disruptive behavior" is defined in part as behavior, including but not limited to failure to follow course, laboratory or safety rules, or endangering the health of others. A student may be dropped from class at any time for misconduct or disruptive behavior in the classroom upon recommendation of the instructor and with approval of the college dean. A student may also receive disciplinary sanctions through the Office of Student Conduct for misconduct or disruptive behavior, including endangering the health of others, in the classroom. The student shall not receive a refund for course fees or tuition.

## **Instructional Changes**

In response to the health and well-being of the students and instructors, the course content delivery mode may be subject to changes.

## **Statements for COVID-19**

### **Face Coverings and Social Distancing**

Pursuant to Nevada law, NSHE employees, students and members of the public are no longer required to wear face coverings while inside NSHE buildings irrespective of vaccination status. In alignment with State of Nevada guidelines, social distancing is no longer required.

### **Disinfecting Your Learning Space**

Disinfecting supplies are provided for your convenience to disinfect your learning space. You may also use your own disinfecting supplies.

### **Testing Positive for COVID-19 or Exhibiting COVID-19 Symptoms**

Students testing positive for COVID 19 or exhibiting COVID 19 symptoms regardless of vaccination status will not be allowed to attend in-person instructional activities and must leave the venue immediately. Students should contact the Student Health Center or their health care provider to receive care and who can provide the latest direction on quarantine and self-isolation. Contact your instructor immediately to make instructional and learning arrangements.

### **Accommodations for COVID 19 Quarantined Students**

For students who are required to quarantine or self-isolate due to 1) COVID 19 infection or 2) exposure while not vaccinated, instructors must provide opportunities to make-up missed course work, including assignments, quizzes or exams. In courses with mandatory attendance policies, instructors must not penalize students for missing classes while quarantined.