UC San Diego - WASC Exhibit 7.1
Inventory of Educational Effectiveness Indicators

Academic Program	(2a) What are these learning outcomes? Students graduating with a degree should be able to:	(3) Other than GPA, what data/evidence are used to determine that graduates have achieved stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)?	(4) Who interprets the evidence? What is the process?	(5) How are the findings used?
Department: NanoEngineering **Major:** B.S. in Nanoengineering **(1) Have formal learning outcomes been developed?** Yes	**Written Communication** Communicate effectively through written reports	**Written Communication** Capstone course (NANO 120A/B), where communication skills are evaluated through written team proposals, individual laboratory reports, and a final team presentation. Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Written Communication** Capstone course instructors, through an established set of rubrics. The Undergraduate Affairs Committee (UAC), using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Written Communication** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
	Oral Communication Communicate effectively through oral presentations; Function on multidisciplinary teams.	**Oral Communication** Capstone course (NANO 120A/B), where students work in assigned student teams and are evaluated on a final team presentation. Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Oral Communication** Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Oral Communication** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
(6) Date of the last Academic Senate Review? 2014-15	**Quantitative Reasoning:** Apply knowledge of mathematics, science, and engineering; Design and conduct experiments, as well as to analyze and interpret data.	**Quantitative Reasoning** At least 50% of graded assignments in upper-division core NANO courses assess students' fundamental knowledge of mathematics, science, and engineering. Capstone course (NANO 120A/B), students are evaluated on experimental design, data collection, and data analysis. Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Quantitative Reasoning** Instructors for course, through exams and homework assignments. Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Quantitative Reasoning** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
December 13, 2016	**Information Literacy** Recognize of the need for, and possess the ability to engage in life-long learning; Possess knowledge of contemporary issues; Understand the impact of engineering solutions in a global, economic, environmental, and societal context.	**Information Literacy** Capstone course (NANO 120A/B), where students are required to identify a clear societal motivation for their project, present a thorough understanding of the relevant scientific background and technical literature, and to recognize current state-of-the-art in the field. Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Information Literacy** Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Information Literacy** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.

Critical Thinking Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability; Identify, formulate, and solve engineering problems.	**Critical Thinking** Capstone course (NANO 120A/B), where emphasis is placed on effective management of the design process by addressing issues such as: problem definition, prioritization, concept generation, risk reduction, teamwork, scheduling, and application of theory to justify design decisions. Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Critical Thinking** Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Critical Thinking** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
Technical Skills Use the techniques, skills, and modern engineering tools necessary for engineering practice.	**Technical Skills** Capstone course (NANO 120A/B) Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Technical Skills** Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Technical Skills** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
Ethics Understand their professional and ethical responsibilities as nanoengineers.	**Ethics** Capstone course (NANO 120A/B) Graduating Senior Survey, administered by JSOE to provide seniors' self-evaluation of learning outcomes along with feedback on all aspects of the program.	**Ethics** Capstone course instructors, through an established set of rubrics. The UAC, using a scale of 1-7, where a score >4 signifies that the outcome has been moderately met.	**Ethics** Each course and its outcomes are reviewed during an annual Teaching Working Group. All findings are reviewed in an Annual Program Evaluation by UAC. The UAC identifies areas of weakness and discusses curriculum revisions and improvements. Changes are implemented by the UAC.
(2b) **Where are the learning outcomes published? Please provide your department/program website address.**	Department website: http://nanoengineering.ucsd.edu/abet-ne UCSD Course Catalog: http://www.ucsd.edu/catalog/curric/NANO-ug.html		