

## ME 497/EPICS 490 Global Engineering Design - India (March 2017) 3 cr.

### Course Coordinators SA-10522-001:

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**Program Description** – The program will begin in Chennai, where you will visit the Bay of Bengal and other cultural sites. You will visit the Chennai campus of the Vellore Institute of Technology (VIT) and meet with students. Then on to Vellore and the main campus. For several days you will work with VIT students on design projects and community work while visiting sites like the Golden Temple. Students will be exposed to the higher education system in India while working with VIT students to use engineering design principles to deliver solutions to the community partners in Vellore. Students will also gain an appreciation for the growing high tech industry in India.

**EPICS** – EPICS is an engineering-centered, multi-disciplinary set of courses that uses service-learning to teach design. The program was founded by Leah H. Jamieson and Edward J. Coyle at Purdue in 1995. EPICS has grown at Purdue and beyond to include additional national and international universities and pre-university schools. In EPICS programs teams of students earn academic credit for multi-year, multidisciplinary projects that address the engineering and technology-based needs of community and educational organizations. Activities during this study abroad trip will serve to strengthen the collaboration between EPICS students at VIT and Purdue to meet needs for community partners in Vellore and the surrounding region.

**The Purdue-India Partnership** – India is a key international partner for Purdue. Developing strong partnerships with Indian institutions of higher education, Indian companies, and multinationals with a presence in India is a cornerstone of the Purdue-India relationship. Sustainable partnerships provide opportunities for student and faculty mobility, joint research, and internship opportunities.

**Vellore Institute of Technology (VIT)** – Indian institute of higher education founded in 1984. The institution offers 20 undergraduate, 34 postgraduate, four integrated and four research programs. VIT is in the city of Vellore in India's southern state, Tamil Nadu. It is 130 km west of Chennai and 180 km east of Bangalore. The university's main campus in Vellore is on 250 acres of land. The campus resembles a city, with lake, gardens, lawns, residential complexes, food courts, hair salons and wide roads. The campus has its own water supply and backup electricity supply along with shopping complexes to cater to the needs of resident.

**Travel Dates:** March 10 to 18, 2017

**Prerequisites:** Permission of Instructor – Enrollment in ME and/or EPICS preferred

**Pre-trip Meetings and Course Assignments:** All students are expected to participate in the six pre-trip meetings and complete the associated assignments. At the end of the trip each student will be required to submit a project report and an individual report that includes daily reflections during the trip.

**Grading:** You are expected to conduct yourself in a professional and ethical manner in all aspects of this Global Engineering Design Course. This is a Purdue University course and all rules and regulations pertaining to Purdue University, ME, EPICS, and the Study Abroad Programs are in full force at all times. Grading is based on active and professional participation and conduct in all activities before, during and after the trip.

Each student will receive the following book during the first meeting – “Enjoying India: The Essential Handbook” by J D Viharini Link: <http://a.co/10RXqpl>

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Date	Activity	Reading Assignment for Class Discussion
January 26	Intro, meet and greet, select trip leaders, pre and post departure meeting plan, course deliverables and grading	
February 2	Study abroad and trip logistics, visa application, immunizations and paper work.	“Nine Keys to India” and “Preparation and Arrival”
February 9	Prepare for assessment trip to farms. Design Process	“Cultural Differences” and “Infrastructure”
February 16	EPICS project presentation and discussion (EPICS students.)	“Safety and Security” and “Food and Health Issues” and “Communications and Infrastructure”
February 23	Indian Students Q & A	“Spirituality and Religion” and “Money, Bargaining and Shopping”
March 2	Do's and don'ts in India as well as final travel/trip logistics and reminders	

*One post-trip meeting will be required – time and place TBD*

### **Travel Itinerary**

Friday-March 10

Depart Purdue by motor coach in the afternoon 3:00PM

Depart Chicago 7:40 PM

-Emirates Flight #236 Chicago to Dubai

-Emirates Flight #542 Dubai to Chennai

Sunday-March 12

Arrive Chennai 2:15am- bus to Clarion Hotel

Sleep for a few hours / breakfast at hotel

Lunch Krishna Restaurant

St. Thomas Church and Mount

Visit private beach and Bay of Bengal

Dinner- Barbeque Nation

Monday-March 13

Breakfast at Hotel

Visit Chennai Campus of VIT

Lunch

Tour Mahindra

Market visit/shopping

Dinner

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Spend the night at Chennai Clarion

Tuesday- March 14

- Breakfast at Hotel
- Bus from Chennai to Vellore
- Stop at Kanchipuram Temple and shop
- Lunch
- Check in to guest housing at VIT
- Students divide into groups of 3 or 4 with a VIT student for the evening
- Assessment trip planning – Human Centered Design

Wednesday-March 15

- Breakfast at Guesthouse
- Community Farmer visit – student teams sit together on bus to and from local farms and Javardi

Hills

- Lunch (late)
- Campus tour
- Dinner
- Initial project work

Thursday-March 16<sup>th</sup>

- Breakfast at Guesthouse
- All day projects/Hackathon with VIT students
- Lunch at VIT
- Continue projects/Hackathon
- Dinner
- Presentations and awards
- Free night for students to be on campus with VIT students

Friday March 17<sup>th</sup>

- Breakfast at Guesthouse
- Bus to plant trip (Ford or other)
- Lunch
- IIT Madras
- Dinner
- Spend the night at the Clarion

Saturday, March 18<sup>th</sup>

- Activities with tour guide

Sunday March 19<sup>th</sup>

- Depart Chennai 3:00 AM
  - Emirates flight #543 to Dubai
  - Emirates Flight #235 to Chicago
- Arrive Chicago at 3:40 pm
- Arrive at Purdue Memorial Union approx 10:00 pm