INSTRUCTORS:

Julian Marshall
Acara Co-Director
Associate Professor, Department of Civil Engineering, University of Minnesota
julian@umn.edu
612-625-2397, +91-9620583579

Fred Rose
Acara Director
Institute on the Environment, University of Minnesota
rosex122@umn.edu
612-845-0297, +91-9620583550

Brian Bell
Acara Assistant Director
Institute on the Environment, University of Minnesota
bell0384@umn.edu
414-719-6130, +91-81977-26509

Aruna Raman
Acara India Program Coordinator
Institute on the Environment, University of Minnesota
arunauminn@gmail.com
+91-99000-83738

COURSE OVERVIEW:

While populations in developed nations benefit from widespread modern infrastructure, access to reliable infrastructure services remains limited in developing nations. Rapidly urbanizing populations growing in size and affluence often do not own and cannot access the infrastructure required for a healthy, safe, and productive life. Urban and rural population growth often is not accompanied by commensurate development of transportation, housing, water supply, wastewater, solid waste, and energy systems. The resulting challenges are enormous. For instance, electricity is often unreliable, leading residential and commercial establishments install a patchwork of private back-up diesel generators. Women may wait in long lines for over-priced water from private water purveyors because water infrastructure or sufficient supply does not reach their homes. Aging sewage pipelines remain broken because the wastewater utility cannot recover its operational costs under financial tariff structures. Low-income communities are especially excluded from access to reliable public services. Because realizing access to efficient, affordable, and safe products and services is necessary to improve public health and livelihoods, professionals from various disciplines can take an important role in supporting creation of impactful technologies and services in developing societies to address societal and environmental challenges while generating revenue.
In May 2015, the University of Minnesota will lead students on a pathway of exploration in CE4011/5570: Design for Sustainable Development: Discovery. This three-week course will introduce students to engineering and social entrepreneurial aspects of urban and rural development in Bangalore, India. Through guest lectures, field visits and workshops, students will investigate the role of engineers and designers in achieving sustainable access to products and services through social entrepreneurial approaches. By the end of the course students will have an appreciation for infrastructure and other engineering challenges of urban and rural development, and for how effective sustainable technical solutions must fit within a broader socio-economic context.

This class is open to upper-level undergraduates (students with advanced standing - juniors or seniors - with a minimum 3.0 GPA) and graduate students at the University of Minnesota. The class will have four pre-departure meetings in Minnesota. The program is in Bangalore, India, May 18 to June 8, 2015, including travel time.

COURSE OBJECTIVES
To explore development, environment, engineering, and infrastructure issues in India, with a focus on:
- Issues, challenges, and solutions in urban and rural Indian communities.
- How communities can effectively participate in the design and management of products and services.
- Ways in which infrastructure engineering in India differs from in the United States.

To explore the role of business and technology in creating effective approaches to provision of technologies and services in India including:
- Principles of and approaches to sustainable development (top-down and bottom-up).
- Roles of institutions (government, NGOs, business) in sustainable development.
- Roles of engineers, designers, entrepreneurs, and appropriate technology in sustainable development to improve living conditions.
- Successes and failures in the use of technology and business to support development.
- How engineers and entrepreneurs create ventures to address social and environmental challenges.
- How to develop and communicate business models to address development challenges in India.

EDUCATIONAL OBJECTIVES:
The course is designed so students will demonstrate the following:
- Global awareness of social, economic, and technical challenges in developing societies.
- Inter-cultural and interdisciplinary skills, including communication.
- Understanding of professional and ethical responsibility.
- Understanding of international and sustainable development.
- Understanding the role of entrepreneurs and engineers in sustainable development.
- Understanding of how to create effective market-based approaches to development challenges.
- Understanding of how and why infrastructure and other engineered systems in India are designed and operated differently than in the United States.

TEACHING METHODS:
- In-class presentations by invited experts, including researchers and practitioners from non-governmental organizations, businesses, entrepreneurial groups, government, and academia.
- Field visits to communities and project sites in and around Bangalore.
- Readings on engineering, business, and society in India.
- In-class discussions & student presentations.

CREDITS AND WORKLOAD EXPECTATIONS:
Design for Sustainable Development: Discovery is an intensive three-credit field course. Expect to spend 25-30 hours before the class starts for pre-departure meetings, required reading, and travel preparation. Expect 8 or more hours per day in course-related activities while in India.

GRADING:
The overall course grade is comprised of participation (30%) and assignments (70%).
PRE-DEPARTURE COURSE MEETINGS & ASSIGNMENTS

Meeting 1 – What’s the Plan?: Course Introduction
Thursday, January 29, 2015 @ 17:00-19:00 in IonE R370 (dinner included)

Key Questions:
• What is Design for Sustainable Development: Discovery? What are the course objectives? What are next steps to prepare for this class?

Activities:
• Course intro and outline: Introductions, review of course content and outline.
• Logistics preparation: Review of next steps to prepare for India.
• Assignment distribution: Behind the Beautiful Forevers and FlipGrid introductions.

Assignments Given:
• Assignment 1 – Due by 2/26/15: Introduce yourself to the class with a FlipGrid video at http://flipgrid.com/#ce5570 (password = India) up to 90 seconds.
• Assignment 2 – Due by 2/26/15: Read Behind the Beautiful Forevers (handed out in meeting 1). Submit a 90 second FlipGrid video at http://flipgrid.com/#ce5570 (password = India) using “what, so what, now what” approach outlined in Appendix A. Be prepared to discuss your summary in meeting 2.

Meeting 2 – What’s the Problem: Quality of Life in India
Thursday, March 5, 2015 @ 18:00-20:00 in IonE R370 (dinner included)

Key Questions:
• What struck you in Behind the Beautiful Forevers? How does quality of life differ between India and the US? How is quality of life indicated? What challenges did the people face in the community? How did people overcome challenges in their lives? What does the story tell you about Indian culture?

Activities:
• Discussion: Behind the Beautiful Forevers review. Discussion of book summaries, key questions.
• World quality of life quiz: Test assumptions of quality of life indicators.
• Review logistics preparation: Review next steps for preparing for India.

Assignments Given:
• Assignment 3 – Due by 3/26/15: Select a venture addressing a social or environmental challenge in India from Appendix B that is in an area of interest for you. Write a brief summary of your venture’s business model structured using the criteria provided in Appendix B, to be submitted electronically via the class dropbox (please name it YOURLASTNAME_CE5570_ASSN3). Be prepared to discuss your review in meeting 3.
• Assignment 4 – Due by 3/26/15: Watch India-focused TED talk provided below. Submit a 90 second FlipGrid video at http://flipgrid.com/#ce5570 (password = India) to reflect on one of the TED talks using a “what, so what, now what” approach in Appendix A. Be prepared to discuss your review in meeting 3.
  o East vs West - the myths that mystify: http://www.ted.com/talks/devdutt_pattanaik?language=en
  o India’s hotbeds of invention: https://www.ted.com/talks/ani_gupta_india_s_hidden_hotbeds_of_invention
  o Why is India so filthy?: https://www.youtube.com/watch?v=tf1VA5jqmRo
  o Dilli: See dropbox Meeting 2 folder
• Assignment 5 – Due by 3/26/15: Submit 4 big questions via http://goo.gl/forms/FcIfoIUB1g. Submit 2 questions on India (e.g. culture, politics, economics, environment, society, gender, etc.) and 2 questions on the class (logistics, academics, finance, etc). We will discuss your questions in meeting 3.

Meeting 3 – What’s Acara’s Approach: Intro to Impact Entrepreneurship
Thursday, April 2, 2015 @ 18:00-20:00 in IonE R370 (dinner included)

Key Questions:
• What is impact entrepreneurship? What is the role of it in addressing grand challenges?

Activities:
• Discussion: Impact venture model assignment review, TED talk review, key questions review.
• Asia country quiz: Test knowledge of geography of countries in Asia.
• Blog guidance: Brief on class blog use and etiquette.
Assignments Given:

- **Assignment 6 – Due by 4/30/15:** Take the Intercultural Learning Tutorial and complete cultural FlipGrid. The tutorial is here: [https://ay14.moodle.umn.edu/enrol/users.php?id=14161](https://ay14.moodle.umn.edu/enrol/users.php?id=14161). Submit 90-second video on FlipGrid video at [http://flipgrid.com/#ce5570](http://flipgrid.com/#ce5570) (password = India) addressing the following: What goals and expectations do you have for the trip with regard to building intercultural competence? What do you think will be the biggest challenge for you?

- **Assignment 7 – Due by 4/30/15:** Research 1 of the big India-focused questions submitted by another student for meeting 3 and write up a 1 page summary responding to that question. A sign up list for each question will be shared following meeting 3, so each student will research a different question. Research sources could include news articles, academic articles, books, people, TED talks, or others. Reference and cite at least 3 sources. Please find sources that you find useful and high-quality and that you would recommend to others. To be submitted electronically via the class dropbox (please name it YOURLASTNAME_CE5570_ASSN7). Be prepared to discuss your responses in meeting 4.

### Meeting 4 – Ready, set, . . . here we go!: Final India preparations

**Thursday, May 7, 2015 @ 18:00-20:00 in IOnE R370 (dinner included)**

**Key questions:**

- What is our cultural identity and perspective? What did you learn from researching your India question? What are behavior expectations for the program?

**Activities:**

- **Discussion:** IDI tutorial results, cultural FlipGrid question review, research summaries.
- **Expected behavior:** Discuss behavior expectations for the course.
- **Logistics:** Follow up with final logistics issues.

**Assignments Given:**

- **Assignment 8 – Due by 5/18/15:** A reader with brief articles on key topics in India will be provided. These readings will be discussed daily while in India. Students should select and read any one article per topic area. These articles need to be read before flying to India and we suggest taking reading notes for each article to be better prepared to discuss it during the class. We will discuss these articles by topic associated with each day of activities.

- **Assignment 9 – Due in India 5/18/15-6/8/15:** Two photo-blog entries per student, to be posted on the course blog. Guidelines and dates for posting will be discussed pre-departure. See Appendix A for helpful questions to guide reflection. You may check out past India blogs: [2014](#), [2013](#).

- **Assignment 10 – Due by 6/15/15:** Daily journal documenting experiences and observations (~200 words/day). The journal may be submitted electronically or as legible photographs/scans in a single file via the course dropbox, or by hard copy to Brian. You may submit the journal earlier if you wish.

### Additional Assignments

**Optional Pre-Departure Reading:** Students are advised to buy and read one of the following books: (1) *Maximum City* by Suketu Mehta (2005), (2) *White Tiger* by Aravind Adiga (2008), (3) *The Red Carpet* by Lavanya Sankaran (2006), (4) *In Spite of the Gods* by Edward Luce (2008), (5) *Shantaram* by Gregory David Roberts (2005), (6) *India Calling: An Intimate Portrait of a Nations Remaking* by Anand Giridharadas (2012).

**Only for graduate students:**

- **Assignment 11 - Due by 6/15/15** – A venture summary covering an organization met during the course time in India. The venture summary should be structured using the criteria in Appendix B. The venture summarized must be different than that explored in assignment 2. This report is required for all graduate students (enrolled in CE 5570). The specific venture will be selected while in India. The final summary will be due by 6/15/15 via the course dropbox (please name it YOURLASTNAME_CE5570_ASSN11).

**Only for undergraduate students seeking CSE technical elective credit:**

- **Assignment 12 - Due by 6/15/15** – A problem set focused on environmental engineering problems observed during the class in India. The technical assignment may be required for undergrad CSE students (CE 4011) seeking technical elective credit; talk to us to see if it is required. The technical assignment is due by 6/15/15 via dropbox (please name it YOURLASTNAME_CE5570_ASSN12).
# India Program Outline

**Monday, May 18, 2015: Group Flight Departs Minneapolis, USA**

Meet (2:00pm) at the Delta Air Lines group check-in counter, lower T level (tram level), Minneapolis-St. Paul International Airport, Terminal 1-Lindbergh, for departure (5:06pm) on Delta Air Lines flight DL #171 for Paris; non-stop Airbus 332 service with dinner served en route (check baggage through to Bangalore).

**Tuesday, May 19, 2015: Group Flight Arrives Bangalore, India**

Arrive (08.35am) Paris Charles de Gaulle Airport and proceed to connecting departure (10.40am) on Air France flight DL #8461 to Bangalore; non-stop Airbus 332 service with meals served en route. Arrive (23.50pm) Bengaluru International Airport, meet Brian at airport, transfer to Social Rehab Hostel and Urban Retreat.

**Wednesday, May 20, 2015: Orientation, Bangalore Exploration**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Breakfast at Social Rehab Hostel</td>
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<tr>
<td>10:00</td>
<td>Group orientation at Social Rehab Hostel</td>
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<tr>
<td>12:30</td>
<td>Lunch at Social Rehab Hostel</td>
</tr>
<tr>
<td>14:00</td>
<td>Bangalore exploration / treasure hunt in city</td>
</tr>
<tr>
<td>18:00</td>
<td>Welcome group dinner at Imli, a local café and restaurant in Indiranagar</td>
</tr>
</tbody>
</table>

**Thursday, May 21, 2015: Urban Development in Bangalore**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td>Early breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>7:30</td>
<td>Walking tour of Chikpet, Bangalore with Native Place with Aliyeh Rizvi</td>
</tr>
<tr>
<td>10:30</td>
<td>Brunch at Prakash Cafe</td>
</tr>
<tr>
<td>13:30</td>
<td>Urban development landscape discussion with Gubbi Labs / Fields of View with HS Sudhira and Bharath Palavalli at Bhive Koramangala</td>
</tr>
<tr>
<td>17:00</td>
<td>Documentary screening of Our Metropolis and discussion with filmmakers Gautam Sonti and Usha Rao at Social Rehab Hostel</td>
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<tr>
<td>20:00</td>
<td>Dinner at Café Thulp</td>
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</tbody>
</table>

**Friday, May 22, 2015: Solid Waste Trash Trail with Saahas**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>7:30</td>
<td>Breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>8:00</td>
<td>Group discussion, transport to Kasa Rasa, Koramangala</td>
</tr>
<tr>
<td>9:45</td>
<td>Kasa Rasa, decentralized waste management site</td>
</tr>
<tr>
<td>10:15</td>
<td>Visit to Madiwala vegetable market</td>
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<tr>
<td>11:00</td>
<td>Dry waste market and collection center</td>
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<tr>
<td>11:30</td>
<td>Visit to Bingipura landfill</td>
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<tr>
<td>12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30</td>
<td>Large processing unit (Mavallipura) and plastic recycling unit (Yelahanka)</td>
</tr>
<tr>
<td>18:00</td>
<td>Group discussion and reflection at Social Rehab Hostel</td>
</tr>
<tr>
<td>19:00</td>
<td>Dinner at Humming Tree</td>
</tr>
</tbody>
</table>

**Saturday, May 23, 2015: Rural Development and Farming with Navadarshanam (overnight)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>6:00</td>
<td>Early breakfast at Social Rehab Hostel, transportation to Navadarshanam</td>
</tr>
<tr>
<td>9:00</td>
<td>Arrival, introduction at Navadarshanam, group meditation</td>
</tr>
<tr>
<td>10:00</td>
<td>Perspectives on sustainable living and tour of Navadarshanam</td>
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<tr>
<td>11:30</td>
<td>Hands-on participation in village food co-op and in sustainable farming practices</td>
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<tr>
<td>13:00</td>
<td>Lunch (vegetarian)</td>
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<tr>
<td>14:00</td>
<td>Afternoon break</td>
</tr>
<tr>
<td>15:00</td>
<td>Visit farmers in village, discussion on agricultural practices and issues</td>
</tr>
<tr>
<td>18:00</td>
<td>Forest walk within Navadarshanam campus</td>
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<tr>
<td>19:00</td>
<td>Dinner (vegetarian)</td>
</tr>
<tr>
<td>20:00</td>
<td>Free</td>
</tr>
<tr>
<td>Day</td>
<td>Event</td>
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<tr>
<td>Sunday, May 24, 2015</td>
<td>Rural Development and Farming with <a href="#">Navadarshanam</a> / Free</td>
</tr>
<tr>
<td>7:00</td>
<td>Yoga/pranayama/meditation session</td>
</tr>
<tr>
<td>9:00</td>
<td>Breakfast (vegetarian)</td>
</tr>
<tr>
<td>10:00</td>
<td>Return transportation to Bangalore</td>
</tr>
<tr>
<td>12:00</td>
<td>Free</td>
</tr>
<tr>
<td>12:30</td>
<td>Optional lunch ordered in from Chakum Chukum</td>
</tr>
<tr>
<td>16:00</td>
<td>Optional afternoon group yoga at Yogisthaan Café</td>
</tr>
<tr>
<td>20:00</td>
<td>Optional dinner at Crème and Crust</td>
</tr>
<tr>
<td>Monday, May 25, 2015</td>
<td>Water access and rights with <a href="#">Environmental Support Group</a> (ESG)</td>
</tr>
<tr>
<td>7:30</td>
<td>Breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>9:00</td>
<td>Overview discussion with ESG on water landscape in Bangalore and ESG’s efforts to save the lakes,</td>
</tr>
<tr>
<td></td>
<td>at Bhide Koramangala</td>
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<tr>
<td>10:30</td>
<td>Coffee/tea break</td>
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<tr>
<td>11:00</td>
<td>Transport to Bellandur lake</td>
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<tr>
<td>12:00</td>
<td>The battle of Bellandur, the effects of unplanned urbanization</td>
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<tr>
<td>13:30</td>
<td>Lunch and interactive discussion</td>
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<tr>
<td>14:30</td>
<td>Coffee/tea break</td>
</tr>
<tr>
<td>16:00</td>
<td>Group discussion and reflection, Lal Bagh visit</td>
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<tr>
<td>18:00</td>
<td>Dinner at Thindi Beedi</td>
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<tr>
<td>Tuesday, May 26, 2015</td>
<td>Transportation with <a href="#">Bangalore Metro Rail Corporation</a> (BMRC)</td>
</tr>
<tr>
<td>5:30</td>
<td>Optional group yoga at Yogisthaan Cafe</td>
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<tr>
<td>8:00</td>
<td>Breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>8:30</td>
<td>Group discussion and reflection, transport to metro tour</td>
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<tr>
<td>10:30</td>
<td>Bangalore Metro tour including riding metro, meeting engineers, visiting depot, exploring tunnels</td>
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<tr>
<td>13:30</td>
<td>Lunch as part of Metro tour</td>
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<tr>
<td>14:30</td>
<td>Continuation of Metro tour</td>
</tr>
<tr>
<td>19:00</td>
<td>Free</td>
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<tr>
<td>Wednesday, May 27, 2015</td>
<td>Energy design thinking workshop with <a href="#">SELCO</a> – Day 1</td>
</tr>
<tr>
<td>7:00</td>
<td>Breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>7:30</td>
<td>Group discussion and reflection, transport to SELCO office</td>
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<tr>
<td>9:00</td>
<td>Workshop introduction at SELCO</td>
</tr>
<tr>
<td>9:30</td>
<td>Community participation: what it means, why it is done, how it works, participatory tools, risks</td>
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<tr>
<td>11:00</td>
<td>On ground interaction: identification of community, interaction with communities</td>
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<tr>
<td>13:00</td>
<td>Lunch at nearby restaurant</td>
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<tr>
<td>14:00</td>
<td>Story telling, barriers and challenges, solution brainstorming</td>
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<tr>
<td>15:45</td>
<td>Solution categorization and idea selection, stakeholder mapping, storyboarding</td>
</tr>
<tr>
<td>18:30</td>
<td>Dinner Eshanya</td>
</tr>
<tr>
<td>Thursday, May 28, 2015</td>
<td>Energy design thinking workshop with <a href="#">SELCO</a> – Day 2</td>
</tr>
<tr>
<td>5:30</td>
<td>Optional group yoga at Yogisthaan Cafe</td>
</tr>
<tr>
<td>8:00</td>
<td>Breakfast at Social Rehab Hostel, transport to SELCO office</td>
</tr>
<tr>
<td>9:00</td>
<td>Product service systems (concept, advantages, examples)</td>
</tr>
<tr>
<td>10:00</td>
<td>Introduction of challenge (background of community)</td>
</tr>
<tr>
<td>11:00</td>
<td>Group session 1</td>
</tr>
<tr>
<td>13:00</td>
<td>Lunch at nearby restaurant</td>
</tr>
<tr>
<td>14:00</td>
<td>Group session 2</td>
</tr>
<tr>
<td>15:45</td>
<td>Group presentations</td>
</tr>
<tr>
<td>18:00</td>
<td>Free, optional dinner at Social Rehab Hostel</td>
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</tbody>
</table>
### Friday, May 29, 2015: **Ugly Indian Spot Fix, Swami Vivekananda Youth Movement visit** (overnight)

- 6:00: Early breakfast at Social Rehab Hostel
- 7:00: Local spot fix with Ugly Indian at TBD location
- 12:00: Lunch at Social Rehab Hostel, group discussion and reflection
- 13:00: Departure for train station
- 15:00: Train departs for Mysore
- 17:30: Arrive in Mysore, bus transport to V-LEAD Hostel
- 19:00: Group dinner, Mysore market visit

### Saturday, May 30, 2015: **Swami Vivekananda Youth Movement visit near Mysore**

- 7:00: Breakfast at V-LEAD Hostel
- 7:30: Departure for SVYM project sites
- 9:30: Visit Hosahalli Resource Centre, visit Viveka Tribal Centre for Learning, Viveka Teachers Training and Research Institute
- 12:00: Kenchanahalli visit
- 12:15 Tour of Ayurveda Hospital
- 12:45: Lunch
- 13:30: Departure for Saragur
- 14:30: Sargur Hospital and Viveka School of Excellence visits
- 16:30: Departure for Mysore
- 18:30: Group dinner at V-LEAD Hostel in Mysore
- 19:30: Departure for Bangalore by bus

### Sunday, May 31, 2015: Free

- 8:00: Breakfast at Social Rehab Hostel
- 13:00: Optional lunch at Claytopia
- 16:00: Optional group yoga at Yogishthaan Café
- 19:00: Optional football game with **Bengaluru FC**
- 21:00: Optional dinner at **Arbor Brewing Company**

### Monday, June 1, 2015: Rural Livelihoods at **Technology Informatics Design Endeavour (TIDE)**

- 7:00: Transport to TIDE’s Women’s Technology Park with breakfast in route
- 10:30: Introduction to TIDE and walking tour, introduction to Manini food drying enterprise
- 13:00: Lunch at WTP
- 14:00: Group discussion with women’s self-help group
- 17:00: Return to Bangalore
- 20:00: Dinner at **Esplanade**

### Tuesday, June 2, 2015: Corporate facility visits with **Mahindra Reva and Honeywell**

- 5:30: Optional group yoga at Yogishthaan Café
- 8:00: Breakfast at Social Rehab Hostel, group discussion and reflection, transport to Reva
- 10:00: Arrival and opening at Reva facility in Bommasandra, corporate presentation
- 11:30: Reva facility tour
- 13:00: Lunch at Art Blend Cafe/Cafe Torque
- 15:00: Honeywell Technology Solutions visit
- 18:00: Free
- 19:00: Optional dinner at **Tadka Singh / Chakum Chukum**

### Wednesday, June 3, 2015: Food & biogas - **Akshaya Patra and Green Power Systems**

- 5:30: Early snack at Social Rehab Hostel and transport to Akshaya Patra facility visit
- 8:00: Tour of Akshaya Patra food production center and breakfast
- 9:00: Meeting with Green Power Systems, visit biogas facility
- 13:00: Lunch in city, group discussion and reflection
- 13:30: Free, optional TBD group activities
- 18:00: Depart for train station, dinner at station
- 20:30: Night train departure for Raichur
<table>
<thead>
<tr>
<th>Thursday, June 4, 2015: Rural development visit with <strong>Samuha</strong> (Overnight)</th>
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<tbody>
<tr>
<td>5:30: Night train arrival in Raichur</td>
</tr>
<tr>
<td>6:00: Transport to Samuha campus, check in, rest</td>
</tr>
<tr>
<td>9:00: Breakfast and group discussion</td>
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<tr>
<td>10:00: Deodurga campus introduction</td>
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<td>13:30: Lunch at campus</td>
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<td>14:30: Disability program</td>
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<td>15:15: CDM program</td>
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<td>16:15: Village committee meeting</td>
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<td>17:15: Discussion with Munjuvu team</td>
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<tr>
<td>18:15: Cultural program, dinner at campus</td>
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<table>
<thead>
<tr>
<th>Friday, June 5, 2015: Rural development visit with <strong>Samuha</strong></th>
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<tbody>
<tr>
<td>8:00: Breakfast and group discussion</td>
</tr>
<tr>
<td>10:00: NPM Program</td>
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<tr>
<td>11:00: MNREGA Program</td>
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<tr>
<td>12:00: CBRD Workshop</td>
</tr>
<tr>
<td>13:30: Lunch at campus and concluding session</td>
</tr>
<tr>
<td>16:00: Site seeing at Huvinahadagi Bridge or Koppar Village</td>
</tr>
<tr>
<td>19:00: Dinner at Babumiya</td>
</tr>
<tr>
<td>20:00: Closing, campus departure</td>
</tr>
<tr>
<td>21:45: Night train departure for Bangalore</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Saturday, June 6, 2015: TBD activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:50: Night train arrival in Bangalore</td>
</tr>
<tr>
<td>10:00: Breakfast at Social Rehab Hostel</td>
</tr>
<tr>
<td>11:00: TBD activities</td>
</tr>
<tr>
<td>16:30: Bimba Art Foundation tour and show (Tentative)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sunday, June 7, 2015: Free, evening departure</th>
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</thead>
<tbody>
<tr>
<td>5:00 Optional visit to KR Flower Market</td>
</tr>
<tr>
<td>9:00: Breakfast at Social Rehab Hostel, free</td>
</tr>
<tr>
<td>13:00: Optional group yoga at Yogisthaan Café</td>
</tr>
<tr>
<td>17:00: Depart hotel for final group activities and dinner at <strong>District 6</strong></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Monday, June 8, 2015: Group flight departs Bangalore, India</th>
</tr>
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<tbody>
<tr>
<td>Early morning departure (01.45) on Air France Airlines flight AF #191 for Paris; non-stop Airbus 332 service with meals served en route (check baggage through to Twin Cities). Upon arrival (08.35) at Paris Charles de Gaulle International Airport proceed to connecting Air France Airlines flight DL #170 departing (10.30am) for MSP; non-stop Airbus 343 service with meals served en route. Arrive (12.45pm) Minneapolis-St. Paul International Airport, Terminal 1-Lindbergh, and clear customs (Note: Each passenger must have paper or electronic itinerary with your name indicated to enter the Bangalore International Airport)</td>
</tr>
</tbody>
</table>
INDIA PROGRAM PARTNERS

Partner: Navadarshanam
Sector: Agriculture and sustainability
Description: An organic farm and Gandhian retreat in northern Tamil Nadu, Navadarshanam investigates ecological and spiritual alternatives to the modern way of living and thinking.
Website: http://navadarshanam.org/

Partner: Native Place
Sector: Local history
Description: Native Place and works to build awareness of Bangalore’s local history and culture through curated experiences, travel writing and city based collaterals.
Website: http://creativemornings.com/talks/aliyeh-rizvi/1

Partner: Swami Vivekananda Youth Movement (SVYM)
Sector: Community health, education and development
Description: Swami Vivekananda Youth Movement is a development organization, engaged in building a new civil society in India through its grassroots to policy-level action in Health, Education and Community Development sectors. SVYM is also rooted to its values of Satya, Ahimsa, Seva and Tyaga, which is reflected in its program design and delivery, transactions with its stakeholders, resource utilization, disclosures and openness to public scrutiny.
Website: http://www.svym.org/

Partner: SELCO
Sector: Solar lighting and energy access
Description: SELCO Solar Pvt. Ltd, a social enterprise established in 1995, provides sustainable energy solutions and services to under-served households and businesses.
Website: http://www.selco-india.com/

Partner: Green Power Systems
Sector: Energy and waste
Description: Founded in 2011, GPS Renewables is a waste-to-energy technology company that is pioneering the development of clean and low-cost technology for waste management solutions. Biourja is GPS Renewables’ inaugural product, and is arguably the first viable bio waste to energy solution for urban establishments. GPS Renewables is dedicated to building innovative technology products and services to handle waste in the cleanest possible way while still providing excellent economic returns to its clients.
Website: http://www.greenpowersystems.co.in/

Partner: Akshaya Patra
Sector: Food and education
Description: The Akshaya Patra Foundation is a not-for-profit organisation headquartered in Bangalore, India. The organisation strives to fight issues like hunger and malnutrition in India. By implementing the Mid-Day Meal Scheme in the Government schools and Government aided schools, Akshaya Patra aims not only to fight hunger but also to bring children to school.
Website: http://www.akshayapatra.org/

Partner: SAMUHA
Sector: Rural development
Description: SAMUHA works with vulnerable people to improve their quality of life within defined periods of time. SAMUHA derives its name from Sanskrit meaning an organized group or society. This reflects their belief that development is best sustained when undertaken through group processes. They began operations in January 1987 in North Karnataka.
Website: http://samuha.org/

Partner: Bangalore Metro Rail Corporation
Sector: Transportation
Description: The BMRC is the organization responsible for implementing the Bangalore Metro Rail Project.
Website: http://www.bmrc.co.in/
Partner: Ugly Indian  
Sector: Society and civil society  
Description: This anonymous movement of Indians across the sub-continent aims to bring attention to sanitation and hygiene issues in cities through mobilizing individuals to clean up their own cities.  
Website: [http://theuglyindian.com/](http://theuglyindian.com/)

Partner: Saahas  
Sector: Waste management  
Description: This non-profit converts waste to resource, helping organize improved waste collection and processing in Bangalore.  
Website: [http://saahas.org](http://saahas.org)

Partner: ESG India  
Sector: Environmental policy  
Description: Environment Support Group works with a variety of environmental and social justice initiatives across India and the world. They address issues and concerns collaborating across sectors and disciplines keeping the interests of local project affected communities and voiceless ecosystems in primary focus. The spirit of involvement is to be sensitive to contextual complexities so the solutions are environmentally and socially just, and deeply democratic.  
Website: [http://www.esgindia.org/](http://www.esgindia.org/)

Partner: Technology Informatics Design Endeavour (TIDE)  
Sector: Women's livelihoods and agriculture  
Description: TIDE is an organization devoted to promoting sustainable development through technological interventions. They share a concept of development that meets the needs of the neediest, is in harmony with the environment, permits grass root participation, uses local resources and builds local capacity.  
Website: [http://tide-india.org/](http://tide-india.org/)

Partner: Mahindra Reva  
Sector: Electric vehicle  
Description: Mahindra Reva is a leading company in the electric car industry in India.  
Website: [http://mahindrareva.com/](http://mahindrareva.com/)
INSTRUCTOR BIOS

Julian Marshall, PhD.
In 1998, Marshall quit his job as an environmental engineer, moved to Singapore to teach, then to northern India to volunteer in an ecological development NGO. His volunteer work in Ladakh, India, made him wonder what is "development" and how does it work, and what does it mean to help others effectively, especially as an outsider to a culture. Unsure of the answers, but figuring that others may have thought about those questions, while in India he applied to graduate school. A decade (and two degrees) later, he is no more sure of the answers, but the questions remain, and with them, his drive to return to India. His recent research in India includes air pollution studies in Delhi, Hyderabad, and Bangalore, and in a rural community in northern Karnataka. As co-director of the Acara Challenge, Marshall works with students to help them start businesses and non-profits in India that address environmental and health issues. He has a BSE in Chemical Engineering from Princeton, and an MS and PhD in Energy Resources from UC Berkeley. Marshall is an associate professor of environmental engineering; his research focuses on air pollution and public health. He has lived and worked in Barcelona, India, Indonesia, Minneapolis, San Francisco, Singapore, and Vancouver. His favorite Indian breakfast is chow-chow bath.

Fred Rose
Fred is the co-founder/director of Acara, a program of the Institute on the Environment, at the University of Minnesota. Acara is a series of courses and incubation activities to turn the passion of students and mentors into viable social and environmental ventures in the US and abroad. Fred has over 30 years of technology and business development experience in corporate, NGO and academic settings. He was director of technology strategy for Honeywell India. He has helped found social ventures in the US, India and Mexico and has taught social entrepreneurship courses at universities in six countries. He was also the founder of the local non-profit High Tech Kids. Fred's current work involves helping others to design solutions to global environmental challenges.

Brian Bell
Brian is passionate about impact entrepreneurship, incubation, and investing in the US and emerging economies. As Assistant Director of Acara, Brian helps facilitate social venture start ups based in the US, India, and East Africa. He is also involved with IMNPACT Angels, Minnesota's impact angel investing network, and the Minneapolis Hub of Global Shapers. Brian's multidisciplinary background in engineering, design, global development, and entrepreneurship is founded on diverse experiences on four continents. He has led Engineers Without Borders at the University of Minnesota and managed EWB water and sanitation projects with partners in Uganda and Haiti; consulted on cleantech microfinance lending with Envest in Central America; designed productive public spaces with communities in Kibera, Kenya through design firm Kounkuey Design Initiative; evaluated water-sanitation programs in South Asia with UN-HABITAT Nepal and the Government of India; and worked in civil engineering consulting and research in the US. Brian has a bachelor's in civil-environmental engineering from the University of Minnesota and a master's in environmental sciences-sustainable development from Utrecht University in the Netherlands.

Aruna Raman
Aruna is India Program Coordinator at Acara, an impact entrepreneurship program at the University of Minnesota. She helps set up internships and fellowships, works closely with students on their social innovation ideas and business plans, builds both classroom and experiential learning-based capacity building programs, performs culture-sensitive primary field research, and functions as Indian liaison, for logistics-related needs. Aruna has close to 15 years of experience with social innovation, program management, coordination, capacity building, incubation, cross-cultural linkages, print and online journalism, marketing and corporate communications, and technical documentation, both in India and the USA. She earned her Masters in International Development from the Graduate School of Public and International Affairs at the University of Pittsburgh, and spent five years in the Southwestern Pennsylvania region, working with nonprofits focused on diaspora relations, cross-cultural competency, and economic development. Aruna also recently completed the Frontier Market Scouts, an intensive two-week program for social enterprise and impact professionals, at the Middlebury Institute of International Studies at Monterey, California (formerly the Monterey Institute of International Studies).
APPENDIX A: EXPERIENTIAL LEARNING REFLECTION

During the course we’ll reflect and analyze our readings and experiences using three questions: What? So What? Now What? Explanation follows.

**What?** Report the facts and events of an experience, objectively.

—What happened?
—What did you observe?
—What issue is being addressed or population is being served?

**So What?** Analyze the experience.

—Did you learn a new skill or clarify an interest?
—Did you learn, hear, smell, or feel anything that surprised you?
—How is your experience different from what you expected?
—What impacts the way you view the situation/experience? (What lens are you viewing from?)
—What did you like/dislike about the experience?
—What did you learn about the people/community?
—What are some of the pressing needs/issues in the community?
—How does this project address those needs?

**Now What?** Consider the future impact of the experience on you and the community.

—What seems to be the root causes of the issue(s) addressed?
—What other work is currently happening to address the issue?
—What learning occurred for you in this experience?
—How can you apply this learning?
—What would you like to learn more about, related to this project or issue?
—What follow-up is needed to address any challenges or difficulties?
—What information can you share with your peers or the community?
—If you could do the project again, what would you do differently?

This content originates from the University of Minnesota Community Service-Learning Center. For more information see: http://www.servicelearning.umn.edu/info/reflection.html.
APPENDIX B: VENTURE MODEL REVIEW GUIDELINE AND VENTURE LIST

Note: Please structure responses following the bullet format provided.

Short responses (max 100 characters per response)

- Venture name
- Pitch (one sentence summary)
- Primary location of operation
- Stage (level of development)
- Primary industry
- Date Founded
- Number of employees
- Venture website
- Previous capital invested

Long responses (max 500 characters per response)

- Venture overview (one paragraph)?
- What is their competitive advantage?
- Who is their competition?
- How do they make money?
- What is their sales/marketing strategy?
- Who are their customers?
- What is their target market?
- What product or service do they provide?
- What customer problem are they solving?
- What social impact do they seek?
- Who is on the management team?

VENTURE LIST

1 - Transportation
- CyclerCity
- mGaadi
- Sakha Cabs
- Indian Railways

2 - Water
- WaterHealth International
- Gram Vikas
- Next Drop
- Spring Health Water
- Global Easy Water Products
- Sarvajal

3 - Solid Waste
- Waste Ventures
- Sahaas
- Daily Dump

4 - Energy/Lighting
- Simpa Networks
- Green Power Systems
- SELCO
- Husk Power Systems
- Nishant Bioenergy Pvt. Limited
- Mera Gao Power
- D. Light Design
- Onergy
- Orb Energy

5 - Health
- EyeNatra
- Ziqitza Health Care Limited
- Embrace
- Lifespring
- Visionspring
- Sankara Eye Hospital
- Aravind Eye Hospital

6 – Agriculture/distribution
- Amul
- Nano Ganesh, Ossian Agro
- MyRain
- ESSMART
- Drishtee

7 - Livelihoods/Finance
- Babajob.com
- Avani Bio Energy
- MicroGraam
- Kopo Kopo
- Navadarshanam
- Labournet
- SKS Microfinance

8 - Education
- Agastya
- Edubridge
- Hippocampus Learning Centers
## APPENDIX C: KANNADA WORDS

### Greetings
- Welcome: susvāgata
- Hello: namaste
- Goodbye: hogi barutheene
- Okay/Yes: howdhu
- No: illa
- It’s good: chennagidhe
- Good morning: shubhodaya
- Good evening: shubha sāyankāla

### Basic phrases
- What's your name?: ninna hesarēnu?
- My name is ...: nanna hesaru ...
- I'm fine: nānu cennāgiddēne
- Just a little.: kēvala scalp
- I don't understand!: nanage artha āg’lilla

### Relations
- Brother: anna/tamma
- Sister: akka/thangi
- Father: appa
- Mother: amma

### Questions
- How are you?: neevu hēgidheera?
- How much?: ēṣṭu
- How old are you?: Nimma vayasse?
- Where is . . . ?: . . . elli?

### Travel
- Let’s go: Balagade
- Right: yedagade
- Left: nēravagi

### Verbs
- I want . . .: . . . nanege beku
- I have . . .: . . . mae-re pas hai

### Numbers
- One: ondu
- Two: eradu
- Three: mooru
- Four: naalakku
- Five: aidhu
- Six: aaru
- Seven: elu
- Eight: entu
- Nine: ombatthu
- Ten: hatthu
- Twenty: ippaththu
- Twenty-five: ippattaidu
- Thirty: moovatthu
- Forty: nalavatthu
- Fifty: aivaththu
- Sixty: aravatthu
- Seventy: eppaththu
- Eighty: embaththu
- Ninety: tombaththu
- One-hundred: nooru
- One-hundred fifty: nūru aivattu
- Two-hundred: innūru
- Two-hundred fifty: innūru aivattu
- One-thousand: saavira
- Two-thousand: eradū sāvira
- Three-thousand: mūru sāvira

### Menu
- Food: Oota
- Water: Neeru
- Bottled water: Bisleri neeru
- Tea: cahā /chai
- Lentils: masūra

### More basic Kannada words and phrases:
- Rice: akki
- Egg: moṭe
- Indian flatbread: roti, naan, chapatti
- Red Meat (goat): mutton, mānsa
- Chicken: kōlimari
- Vegetables: tharakaari
- Potato: aalu gadde
- Cauliflower: hoo kosu
- Spinach: pālaka
- Carrot: karrattu
- Cucumber: southe kaayi
- Garbanzo bean: kadale kalu

More basic Kannada words and phrases:
APPENDIX D: LOGISTICS NEXT STEPS

1. **Passport:** Submit a PDF of your passport to Brian by 2/26/15. Ensure your passport is valid. Ensure your passport does not expire within 6 months of your date of return to the US from India. If you do not have a passport, arrange one immediately: [http://travel.state.gov/passport/passport_1738.html](http://travel.state.gov/passport/passport_1738.html). See the U Card office in Coffman Union for passport photos as needed.

2. **Flights:**
   - **For students traveling on the group itinerary May 18 – June 8:** Please email Brian by 2/26/15 to confirm if you will be flying with the group. In the email include your Delta Skymiles frequent flyer number, any diet restrictions for meals during flights, your full legal name as in your passport, phone number, preferred email address and date of birth. The tentative group flight is:
     - **Departure Flight**
       - 5:06PM Mon 18 May, MSP-CDG DL 171
       - 11:50PM Tue 19 May, CDG-BLR DL 8461
       - 1 stop, 20hr 14m
     - **Return Flight**
       - 1:50AM Mon 8 June, BLR-CDG DL 8471
       - 12:45PM Mon 8 June, CDG-MSP DL 170
       - 1 stop, 21hr 25m
   - For all students on the group flight, UMN will book your ticket. Once the flight is booked in your name it cannot be cancelled. In the case of an emergency requiring you to miss the flight, you would be charged a change fee and the difference in flight fare to use the flight at a later date. Flight cost will be included in the program fee.
   - **For students traveling on a non-group itinerary:** If you would like to deviate from the group flight, you should discuss your situation with Brian. If you purchase your flight, please email a copy of the itinerary to Brian. For students purchasing their own flight, your tuition bill will be reduced by the final cost of a ticket on the group flight, which will be approximately $1600-$1700. If you purchase a more expensive flight you will not receive a tuition deduction beyond the cost per ticket on the group flight. If you will be arriving in Bangalore on your own without the group, plan to arrive at the hotel by the evening of May 19. Hotel information will be provided ahead of the trip. The program activities will begin in Bangalore morning of May 20.

3. **Obtain India visa:** Obtain an Indian visa through Travisa ([http://india.travisa.com](http://india.travisa.com)) ASAP. Submit your visa application by mail to Travisa-Chicago no later than 2/26/15. You must arrange your tourist visa before flying to India. We recommend that most students apply for a 6 month multiple entry tourist visa through Travisa (do not apply for a student visa, you are not attending an Indian University). In the case you may return to India in the future you may wish to go for a longer duration multiple entry tourist visa. Be VERY CAREFUL about submitting the correct information on the application and submitting ALL required documents, or the visa application will be declined. The visa expense is not included in the cost of the program. If you have any questions during the visa application process do not hesitate to contact Brian to clarify. The visa processing time takes 10-14 business days. Expedited shipping is not necessary if you obtain your visa well in advance of May.

4. **Visit travel clinic:** Visit a travel clinic by 2/26/15 to obtain required vaccinations. You may schedule an appointment with Boynton’s travel clinic via at 612-625-3222 or [http://www.bhs.umn.edu/east-bank-clinic/international-travel-clinic.htm](http://www.bhs.umn.edu/east-bank-clinic/international-travel-clinic.htm). Only your doctor or registered health professional can give medical advice.

5. **Back up personal documents:** Copy or scan personal documents including passport main page and visa page, photo ID (i.e. driver's license), credit and debit cards. You may leave copies of your personal documents at home or may securely store these docs online so they are accessible while traveling. A free, secure storage site is [http://www.flipdrive.com](http://www.flipdrive.com). Alternatively you may email them to yourself and keep in an email folder.

6. **Obtain a credit card (if you don't have one):** Before departing for India, obtain a credit card as a back up. The card should be Visa or MasterCard (not AmEx). Try to arrange a credit card without foreign transaction fees.

7. **Inform financial institutions:** Before departing for India, contact your financial institutions (bank and credit card companies) to inform them you’ll be in India with card transactions. Some institutions allow you to update your travel plans through an online account. If you fail to inform your financial institutions, cards may not work.

8. **Read CE 4011/5570 India Travel Guide:** Review the attached Acara travel guide in Appendix E.
APPENDIX E: INDIA TRAVEL GUIDE

About the guide: This travel guide will help you prepare for India. If you have questions, you may contact Brian Bell (bell0384@umn.edu) or Aruna Raman (arunauminn@gmail.com).

Disclaimer: The content within this guide is intended to serve as a supplement. It is not meant to be a sole source of information for students traveling to India. UMN staff can help address questions and guide planning, but it is up to each student to take care of his/her own preparation. We encourage each student to talk with the appropriate contacts at the Learning Abroad Center, financial institutions, and medical facility in order to ensure full preparation for time abroad. We hope this guide provides useful information that will help you be prepared for India! The University of Minnesota, Avara and any employees of the University of Minnesota are not liable for any losses due to inaccurate information, misguidance or omissions provided in this guide.

A. FLIGHTS.

 Students that wish to travel together will be booked on a group flight departing Minneapolis (MSP) to Bangalore (BLR) May 18 and returning Bangalore to Minneapolis June 8. A UMN faculty member will accompany students on the group flight to India. If students prefer a deviation from the group itinerary, they should discuss their situation with Brian.

B. ARRIVAL

Visa. US citizens require visas prior to arrival in India. All students should arrange their own visa. We recommend a 6-month multiple entry tourist visas for most students. In case you plan to return to India in the future you may obtain a longer-term tourist visa. You should not apply for a student visa in any circumstance. You should not apply for a business visa unless you’ll be pursuing a specific business internship or fellowship program following the CE 4011/5570 program.

Visas should be ordered through Travisa’s Chicago location. Details on how to apply for an India visa are here: http://india.travisa.com. The visa process normally takes 10-14 business days to complete. Please be careful to avoid errors during the application process or your visa application may be rejected and the process may be delayed.

Transportation. For students arriving on the group flight in Bangalore the evening of May 19, private vehicles will await your arrival at the airport. For students arriving in Bangalore on their own itinerary by the evening of May 19, you may request a taxi be arranged for you by emailing your arrival information to Brian with a request for pick up. The Bangalore airport is outside the city; you can expect a one-hour or longer taxi ride. For any students arriving into a different city than Bangalore, we recommend taking pre-paid airport approved taxis.

Money. You can withdraw Rupees from an ATM by debit card either at the airport or at an ATM after arrival. We recommend withdrawing Rupees at an ATM in Bangalore and having some US dollars on hand to exchange as a back up. Be sure to notify your financial institutions of travel plans prior to departure. Visa (Visa Plus network) and MasterCard (Maestro/Cirrus network) are accepted in India. American Express may not be accepted.
C. LODGING

Lodging will be provided throughout your stay in Bangalore. Hotel addresses will be provided in advance.

D. COMMUNICATION

Cell Phones. You'll need a cell phone in India. We'll provide all students with basic cell phones for the program. You may use your own US smart phone, if it is unlocked. Only unlocked cell phones will work with an Indian SIM. If your phone is on contract in the US, your provider may not unlock it. If your phone is not on contract, the provider will typically unlock it. Your US phone must be able to accept a SIM card to be used in India. Normal, micro and nano SIMs can be obtained or cut to size in India. Having a smart phone working in India is convenient but not necessary.

SIM Cards. Your US SIM card should work in India, but using it would be expensive. To avoid data charges, keep your phone on airplane mode when turned on with a US SIM inserted outside the US. UMN will arrange a pre-paid Indian SIM card with 500 Rs talk time prior to your arrival. When you need more airtime you may purchase it at local mobile shops. Domestic calls and text messages in India are affordable, typically 1 Rupees / minute and 1 Rupees / SMS. International calls from an Indian SIM are costly. Skype or Google Hangout are better options for calling the US from India.

In order to get a SIM card on your own in India, you can go to a local mobile shop such as Vodafone or Airtel. You will need to complete an application form along with two passport-sized photos and a copy of your passport main page and visa page. Typically there will be a copy and passport photo facility nearby, but not always.

Laptop and Internet. You will need a laptop. Wireless internet is commonly available in guest houses and cafes in Indian cities. Once in India you may purchase a pre-paid wireless 3G USB internet device. Pre-paid Internet device options are available via Tata Photon, Idea, Airtel, and other providers. They work well in most areas.

E. MONEY

Acquiring Rupees. The currency in India is the Rupee. Indian law does not permit foreigners to bring Rupees into India. The lowest cost way to acquire Rupees is by debit card at ATMs in India. US Dollars may also be exchanged in India, but the exchange fees are often worse at exchange bureaus than at ATMs. Debit cards serviced by Visa and MasterCard are accepted in India, while American Express is often not accepted. While some restaurants and supermarkets may accept credit/debit cards, many businesses only accept cash. Before departing the US, please call your financial institution(s) or update your online account to inform them of travel plans. The current exchange rate is 62 Rupees to 1 USD (as of 1/29/15).

F. HEALTH

Vaccinations. Ensure you are up to date on shots and boosters. You should consult your physician and/or travel clinic for India-specific immunizations. UMN students can make a travel clinic appointment at Boynton at 612-625-3222. More info: http://www.bhs.umn.edu/east-bank-clinic/international-travel-clinic.htm.

Travel registration and international CISI insurance: All UMN students must have CISI insurance to travel internationally. You will be automatically enrolled in CISI as part of the program and do not need to apply separately. Questions on CISI insurance can be directed
to Kaoru Nunn at nunx016@umn.edu or 612-626-8832. Note that students traveling abroad should maintain standard health insurance coverage through a US provider while overseas.

**Medications.** You may want to bring a small supply of preferred over-the-counter drugs for headaches, upset stomach, etc. You’ll be able to find most over-the-counter medications at pharmacies in India. You should bring prescription medications you use regularly from the US in sufficient quantity and with any needed documentation.

**Healthcare.** Healthcare services in India are mostly excellent and affordable. Unlike the US, most folks are able to pay for their health needs even without insurance (in the worst case). While local clinics are able to attend to most primary healthcare needs, state-of-the-art secondary and tertiary care hospitals with competent doctors address most critical care needs. It is best to seek recommendations from colleagues/India coordinator (if in Bangalore) for preferred practitioners. A number of Tier 2 cities also boast great hospitals and healthcare providers. Please carry all your medical documents, which any doctor will be able to refer to while treating you. If possible, scan your documents and carry soft copies.
G. GROUND TRANSPORTATION.

**Auto rickshaws.** “Autos” are readily available for short rides in Indian cities. There is a bit of an art to bargaining for “auto” prices. Generally, auto rickshaw drivers will not take a passenger on a ride for less than 30 to 40 Rs. Drivers sometimes prefer not to use a meter, especially if there is a lot of traffic, and you may need to negotiate a price before the ride. Typically auto drivers in Bangalore are receptive to going on the meter, which is usually reliable. Fixing a price before entering an auto can be a reliable option as well if you know the amount to reach your destination. If you are unsure of how much an auto rickshaw ride should cost, you can take the meter or find out an approximate cost at the hotel or from a local resident.

**Bus.** Most Indian cities have widespread bus networks that are safe and reliable.

**Cabs.** There are a number of app-based cab services that you can use. While Uber is available in Bangalore and Delhi, services like Ola, Meru and Taxi For Sure can be used in Bangalore. Tab is a new cab provider/aggregator in Mumbai. It is best to check with local residents for such services. More often than not, there are competitive discounts available on these cab services.

H. FOOD.

**Food and water safety.** India has awesome food! Unsafe food and water, though, are common sources of stomach issues. Restaurant food is generally safe. Street food from informal vendors can be more risky, but is very tasty. There are exceptions here too. More sanitized versions of street food are available at select outlets (sugarcane juice made with filtered water, for instance). Once again, rule of thumb – check with locals.

A general rule to avoid problems: if it is served hot, eat it. If it is served cold, watch out. Be cautious about eating uncooked vegetables at restaurants or on the street. An advantage with street food is that you see it being made in front of you, so ask if there is anything amiss. Most vendors are cooperative.

Drinking tap water or consuming food that has been exposed to unboiled tap water is not advised. Bottled water (known as mineral or Bisleri water) and filtered water are reliable. Restaurants often serve filtered water by the pitcher or glass, and you may want to ask to make sure it is filtered water prior to drinking.

For those with allergies or food preferences – double check! Veganism and being sensitive to those who are gluten-free (for instance) is catching on (mostly in big cities), so you might need to explain the bare-bones of your choices. Also, a lot of Indians don’t have too many varied food allergies (this is changing as we speak), so you might have to deconstruct explanations, and be watchful. Spice levels can be moderately high by default, so request for low or no-spice (or spice on the side) options.

I. PACKING

**Clothes.** India’s climate varies greatly by region and elevation. It tends to be warm year round in the plains, but December/January can be cool, especially at night. India is known for its heat, which can be extreme March to October, reaching 110-120°F at times. Bangalore is warm yet moderate, and while a jacket is needed in winter, other months are warm but rarely as hot as lower lying areas. Dress in India tends to be more conservative than in the US. For men, plan to wear long pants normally, not shorts. For women, plan to wear long pants/long skirts. Long-sleeve or short-sleeve shirts are fine, but shirts should cover shoulders. However, as you’ve heard many times – there are many India’s! You might find that people in cities like Bangalore and Mumbai dress as they do in the US, while smaller towns are more
conservative. If you are travelling by public transport, you might want to bring a wrap or stole to cover your shoulders, and then remove it when you are amongst friends/at places where the dress code is more liberal. You will find that textiles and fabrics in India are a treat, no matter which city/town you are in. Take full advantage of local fashion and shopping! Clothes are usually designed to be light, airy, and accommodating of local weather. You will find that (especially for women) you can buy fabric and have outfits tailored. This is an economical option. As always, check with locals for shopping tips! Remember that authentic Indian outfits dyed using vegetable dyes have fast-running colors, so check if the clothes are washing machine-friendly.

- “Business casual” outfits for business meetings
- Long pants, skirts (below knees)
- Short-sleeved and long-sleeved shirts, including collared shirts / polos
- Rain jacket, hat
- 1 pair outdoorsy (athletic) shoes, 1 pair casual (business) shoes, 1 pair sandals (you can purchase low cost shoes and sandals in India if desired)
- Undergarments, socks, sleeping attire

**Essentials.**

- Passport
- Insurance card
- Student ID card
- Debit card and credit card
- Back up US cash to exchange

**Electronics**

- Laptop
- USB flash drive
- Camera/battery charger
- MP3 device
- Plug adapter (can buy in India)
- US cell phone/charger

**Miscellaneous.** (note: toiletry items can be purchased in India)

- Shampoo/conditioner/soap
- Toothpaste/toothbrush
- Deodorant
- Razor
- Prescriptions / meds
- Sunblock / bug spray
- Hand sanitizer
- Feminine products
- Games (cards, etc.)
- Glasses/sunglasses/contacts
- Small bag/backpack
- Notebook/pen
Packing Note. We recommend packing light for easy travel. You’ll be taking buses, trains and rickshaws in India. Over-sized rolling suitcases should be avoided. You don’t need many weeks of clothes. You will be able to do laundry weekly. One carry on bag and one checked medium-sized backpack or duffel bag is typically enough. Keep in mind you’ll be able to buy almost anything in India you’d be able to buy in the US!
J. INDIA TRAVEL RESOURCES.

Travel Info:
- US State Dept. – India Background Note: [http://www.state.gov/r/npa/ei/bgn/3454.htm](http://www.state.gov/r/npa/ei/bgn/3454.htm)

Social Innovation Websites:
1. The Alternative - [http://www.thealternative.in/](http://www.thealternative.in/)
2. The Better India - [http://www.thebetterindia.com/](http://www.thebetterindia.com/)

Major News Online:
6. Google News India: [https://news.google.co.in/](https://news.google.co.in/)

Travel Blogs:
3. Write Click Travel - [http://writeclicktravel.com/](http://writeclicktravel.com/) - travel writer Hema Ramprasad’s paean to the restless spirit

Top News Channels:
2. CNN-IBN - [http://ibnlive.in.com/videos/](http://ibnlive.in.com/videos/)
4. Headlines Today - [http://headlinestoday.intoday.in/programmes](http://headlinestoday.intoday.in/programmes)

Other Sources:
1. India-specific free ebooks on Project Gutenberg - [https://www.gutenberg.org/wiki/India_%28Bookshelf%29](https://www.gutenberg.org/wiki/India_%28Bookshelf%29) (check with Aruna on authors).
## APPENDIX F: INDIA CONTACT LIST

<table>
<thead>
<tr>
<th></th>
<th>F. Name</th>
<th>L. Name</th>
<th>Email</th>
<th>India Phone</th>
</tr>
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<tbody>
<tr>
<td><strong>Students</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rebecca</td>
<td>Herron</td>
<td><a href="mailto:herro084@umn.edu">herro084@umn.edu</a></td>
<td>+91-9663507301</td>
</tr>
<tr>
<td></td>
<td>Christopher</td>
<td>Bulkley-Logston</td>
<td><a href="mailto:bulkl001@umn.edu">bulkl001@umn.edu</a></td>
<td>+91-9886136291</td>
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<tr>
<td></td>
<td>Channy</td>
<td>Chan</td>
<td><a href="mailto:chanx306@umn.edu">chanx306@umn.edu</a></td>
<td>+91-9886136943</td>
</tr>
<tr>
<td></td>
<td>Adam</td>
<td>Iversen</td>
<td><a href="mailto:ivers458@umn.edu">ivers458@umn.edu</a></td>
<td>+91-9591849936</td>
</tr>
<tr>
<td></td>
<td>Anmol</td>
<td>Jaguste</td>
<td><a href="mailto:jagus012@umn.edu">jagus012@umn.edu</a></td>
<td>+91-9930393104</td>
</tr>
<tr>
<td></td>
<td>Erin</td>
<td>Kayser</td>
<td><a href="mailto:kayse049@umn.edu">kayse049@umn.edu</a></td>
<td>+91-9591849892</td>
</tr>
<tr>
<td></td>
<td>Emily</td>
<td>Kollenbroich</td>
<td><a href="mailto:kolle120@umn.edu">kolle120@umn.edu</a></td>
<td>+91-9632859757</td>
</tr>
<tr>
<td></td>
<td>Cynthia</td>
<td>Kunkel</td>
<td><a href="mailto:kunke100@umn.edu">kunke100@umn.edu</a></td>
<td>+91-9632067577</td>
</tr>
<tr>
<td></td>
<td>Anna</td>
<td>Schulte</td>
<td><a href="mailto:schu2803@umn.edu">schu2803@umn.edu</a></td>
<td>+91-95609187477</td>
</tr>
<tr>
<td></td>
<td>Malcolm</td>
<td>Smith</td>
<td><a href="mailto:smit8054@umn.edu">smit8054@umn.edu</a></td>
<td>+91-9686583029</td>
</tr>
<tr>
<td></td>
<td>Rachel</td>
<td>Soble</td>
<td><a href="mailto:soble004@umn.edu">soble004@umn.edu</a></td>
<td>+91-9632416327</td>
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<tr>
<td></td>
<td>Brady</td>
<td>Steigauf</td>
<td><a href="mailto:steig030@umn.edu">steig030@umn.edu</a></td>
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</tr>
<tr>
<td></td>
<td>Alexander</td>
<td>Kim</td>
<td><a href="mailto:kimx0977@umn.edu">kimx0977@umn.edu</a></td>
<td>+91-9886136289</td>
</tr>
<tr>
<td></td>
<td>Sarah</td>
<td>Walsh</td>
<td><a href="mailto:walsh601@umn.edu">walsh601@umn.edu</a></td>
<td>+91-9742977146</td>
</tr>
<tr>
<td></td>
<td>Claire</td>
<td>Warren</td>
<td><a href="mailto:warre371@umn.edu">warre371@umn.edu</a></td>
<td>+91-9620583466</td>
</tr>
<tr>
<td></td>
<td>Barni</td>
<td>Hussein</td>
<td><a href="mailto:huss0212@umn.edu">huss0212@umn.edu</a></td>
<td>+91-9686913794</td>
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<tr>
<td><strong>Instructors</strong></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Julian</td>
<td>Marshall</td>
<td><a href="mailto:julian@umn.edu">julian@umn.edu</a></td>
<td>+91-9620583579</td>
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<tr>
<td></td>
<td>Fred</td>
<td>Rose</td>
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<td>+91-9620583550</td>
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<tr>
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<td>Brian</td>
<td>Bell</td>
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<tr>
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<td>Aruna</td>
<td>Raman</td>
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<td>Vishwa</td>
<td><a href="mailto:vismaya404@gmail.com">vismaya404@gmail.com</a></td>
<td>+91-8123561852</td>
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<tr>
<td></td>
<td>Pranay</td>
<td>VK</td>
<td><a href="mailto:pranay.vk@aiesec.net">pranay.vk@aiesec.net</a></td>
<td>+91-8861718215</td>
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<tr>
<td></td>
<td>Vinay</td>
<td>Kumar</td>
<td><a href="mailto:thevinaygreen@gmail.com">thevinaygreen@gmail.com</a></td>
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<tr>
<td></td>
<td>Krishna</td>
<td>Ram</td>
<td><a href="mailto:krish.ram811@gmail.com">krish.ram811@gmail.com</a></td>
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<td>Social</td>
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<td>+91 821 241 5412</td>
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<td>Mega Cabs</td>
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### APPENDIX G: LOCAL INDIRANAGAR FOOD OPTIONS

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<th>Restaurant</th>
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<th>Cost for 2 (approx.)</th>
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<tr>
<td>Berry’d Alive</td>
<td>Dessert Parlour</td>
<td>Not Required</td>
<td>Rs. 400</td>
<td>9620969017; 9611279911</td>
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<td>BBQ Nation</td>
<td>Casual Dining</td>
<td>Required</td>
<td>Rs. 620-1100/person</td>
<td>080 49652822</td>
<td>No</td>
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<tr>
<td>The Black Rabbit</td>
<td>Bar</td>
<td>Required</td>
<td>Rs.2000</td>
<td>080 42415575</td>
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<td>California Pizza Kitchen</td>
<td>Casual Dining</td>
<td>Recommended</td>
<td>Rs. 1200</td>
<td>080 64048888; 080 64058888</td>
<td>Yes</td>
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<tr>
<td>Chakum Chukum Calcutta on a Roll</td>
<td>Quick kathi rolls</td>
<td>Not Required</td>
<td>Rs. 400</td>
<td>080 49652698</td>
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<td>Chili’s</td>
<td>Casual Dining, Tex-Mex, American; Serves alcohol</td>
<td>Not exactly necessary</td>
<td>Rs. 1700</td>
<td>080 42352526</td>
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<td>Chinita Real Mexican Food</td>
<td>Casual Dining, No Bar.</td>
<td>Recommended</td>
<td>Rs. 1100</td>
<td>9686551896; 080 41637107</td>
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<tr>
<td>Claytopia</td>
<td>Bistro,</td>
<td>Not exactly necessary</td>
<td>Rs. 600</td>
<td>080 49652733</td>
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<td>Creme and Crust</td>
<td>Cafe, Continental, All day Breakfasts......</td>
<td>Not Required</td>
<td>Rs. 950</td>
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<td>Esplanade</td>
<td>Casual Dining, Authentic Bengali delicacies</td>
<td>Not exactly necessary</td>
<td>Rs. 900</td>
<td>080 49652795</td>
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<td>The Fatty Bao - Asian Gastro Bar</td>
<td>Casual Dining, Cuisine: Asian; Full Bar Available</td>
<td>Recommended</td>
<td>Rs. 2400</td>
<td>080 49652983</td>
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<td>Glen’s Bakehouse</td>
<td>Cafe, Bakery. Known for its desserts. No Bar.</td>
<td>Not Required</td>
<td>Rs. 800</td>
<td>080 41228773</td>
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<td>Hoppipola</td>
<td>Lounge, Cuisine: Continental</td>
<td>Not Required</td>
<td>Rs.1100</td>
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<td>Little Italy</td>
<td>Casual Dining, Veggie friendly.</td>
<td>Recommended</td>
<td>Rs. 1400</td>
<td>080 25207171; 080 25207272</td>
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<td>LOFT38</td>
<td>Lounge, Casual Dining; Serves alcohol</td>
<td>Recommended</td>
<td>Rs. 1500</td>
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<td>Monkey Bar</td>
<td>Pub</td>
<td>Not Required</td>
<td>Rs. 1500</td>
<td>080 49653197</td>
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<td>MTR 1924</td>
<td>Quick bites, South Indian, veggie friendly</td>
<td>Not exactly necessary</td>
<td>Rs. 450</td>
<td>080 41690688; 9886894116</td>
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<td>Oye Amritsar</td>
<td>Casual Dining, Punjabi cuisine</td>
<td>Not exactly necessary</td>
<td>Rs. 349/person</td>
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<td>Paradise</td>
<td>Casual Dining, Cuisine: Biryani, North Indian</td>
<td>Not exactly necessary</td>
<td>Rs. 600</td>
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<td>Phobidden Fruit</td>
<td>Casual Dining; Cuisine: Vietnamese</td>
<td>Recommended</td>
<td>Rs. 1100</td>
<td>080 41255175</td>
<td>No</td>
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<tr>
<td>Smoke House Deli</td>
<td>Casual Dining</td>
<td>Recommended</td>
<td>Rs. 1500</td>
<td>080 25200899</td>
<td>No</td>
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<tr>
<td>Stoner</td>
<td>Dessert Parlour</td>
<td>Not Required</td>
<td>Rs. 300</td>
<td>080 41312123</td>
<td>Yes</td>
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<tr>
<td>Thulp</td>
<td>Cafe, No Bar.</td>
<td>Not Required</td>
<td>Rs.1000</td>
<td>080 41607606</td>
<td>No</td>
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<td>Toit</td>
<td>Pub, Microbrewery, Cuisine: Italian, American</td>
<td>Required</td>
<td>Rs. 2200</td>
<td>9019713388; 9019813388</td>
<td>No</td>
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<td>Vapour Pub &amp; Brewery</td>
<td>Pub, Cuisine: North Indian, Continental, Chinese</td>
<td>Recommended</td>
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