

PURPOSE OF COURSE is to teach participants how to apply principles of operations research to solve problems in the operating room and perioperative environment:

- Monitoring operational and financial performance of surgical suites and anesthesia groups (“descriptive analytics”),
- Forecasting case durations, time remaining in cases, use of staffed OR time (“predictive analytics”),
- Applying principles of operations research to make common decisions, such as staffing levels, block time planning, case scheduling and assignment, financial management, and strategic planning (“prescriptive analytics”),
- Identifying in-house expertise to aid in problem-solving and determining whether outside consultants are needed,
- Evaluating current decision-support systems.

See: Wachtel RE, Dexter F. [Curriculum providing cognitive knowledge and problem-solving skills for anesthesia systems-based practice](#). ACGME Journal of Graduate Medical Education 2: 624-632, 2010

See: Wachtel RE, Dexter F. [Difficulties and challenges associated with literature searches in operating room management, complete with recommendations](#). Anesthesia & Analgesia 117: 1460-1479, 2013

See: Dexter F, Van Swol LM. [Influence of data and formulas on trust in information from journal articles in an operating room management course](#). Anesthesia & Analgesia Case Reports 6: 329-334, 2016

See: Ahn PH, Dexter F, Fahy BG, Van Swol LM. [Demonstrability of analytics solutions and shared knowledge of statistics and operating room management improves expected performance of small teams in correctly solving problems and making good decisions](#). Perioperative Care and Operating Room Management 19: 100090, 2020

INTENDED AUDIENCE includes anesthesiologists, CRNAs, nurse managers, surgeons, hospital engineers and other analysts responsible for the organization and delivery of surgical care. Participants should have knowledge of middle/high school level algebra, Excel functions, and basic statistics (e.g., Student’s t-test). The course is designed to be especially relevant to engineers and analysts from other fields preparing to work in anesthesia/ ORs.

CASE STUDIES completed in class are an integral part of the course. Participants include both clinicians and analysts. Many of the case questions include electronic literature searching using publicly available materials. The cases help participants learn which techniques should be applied to different types of problems, how best to present results to hospital stakeholders, and leadership principles for team-based OR management decision making.

COURSE SCHEDULE (www.FranklinDexter.net/education.htm)

DAY 1

8:00 AM Use of economically rational ordered priorities to make patient flow decisions

Lecture is based on the following reference article:
Dexter F, Epstein RH, Traub RD, Xiao Y.

[Making management decisions on the day of surgery based on OR efficiency and patient waiting times](#).

Anesthesiology 101: 1444-1453, 2004

11:00 AM Cases 1 and 2

1:00 PM Incorporating uncertainty into decision-making

3:45 PM Cases 3 and 4

5:45 PM Discussion of cases

DAY 2

8:00 AM Allocating OR time operationally (few months before day of patient care)

Lecture is based on the following reference article:

McIntosh C, Dexter F, Epstein RH. [The impact of service-specific staffing case scheduling, turnovers, and first-case starts on anesthesia group and operating room productivity: tutorial using data from an Australian hospital](#).

Anesthesia & Analgesia 103: 1499-1516, 2006

10:00 AM Allocating OR time tactically based on utilization (1 yr before day of patient care)

Lecture is based on the following reference article:

Wachtel RE, Dexter F. [Tactical increases in OR block time for capacity planning should not be based on utilization](#).

Anesthesia & Analgesia 106: 215-226, 2008

10:45 AM Cases 5 and 6

1:00 PM Allocating OR time tactically based on financial and strategic criteria

Lecture is based on the following reference article:

Dexter F, Ledolter J, Wachtel RE. [Tactical decision making for selective expansion of operating room resources incorporating financial criteria & uncertainty in sub-specialties’ future workloads](#).

Anesthesia & Analgesia 100: 1425-1432, 2005

2:45 PM Cases 7 to 9

5:30 PM Discussion of cases

DAY 3

8:00 AM Economics of small reductions in OR times and turnover times

10:00 AM Financial impact of differences among hospitals

Lecture is based on the following reference article:
Wachtel RE, Dexter F, Lubarsky DA.

[Financial implications of a hospital’s specialization in rare physiologically complex surgical procedures](#).
Anesthesiology 103: 161-167, 2005

10:45 AM Cases 10 and 11

1:00 PM Empirical methods for staffing and assignments

Lecture is based on the following reference article:

Dexter F, Epstein RH. [Optimizing second shift OR staffing](#). AORN Journal 77:825-830, 2003

2:00 PM Physician agreements: Anesthesia institutional support and surgeon block time

Lecture is based on the following reference article:

Dexter F, Epstein RH. [Associated roles of perioperative medical directors and anesthesia: hospital agreements for operating room management](#). Anesthesia & Analgesia 121: 1469-1478, 2015

3:00 PM Cases 12 to 15

DAY 4

8:00 AM Discussion of cases from preceding day

9:30 AM Differentiating among hospitals and surgical practices

Lecture is based on the following reference article:

Dexter F, Ledolter J, Hindman BJ. [Quantifying the diversity and similarity of surgical procedures among hospitals and anesthesia providers](#).

Anesthesia & Analgesia 122: 251-263, 2016

10:45 AM Cases 16 and 17

11:55 AM End of course

Open discussion during lunch

The University of Iowa Carver College of Medicine designates this live activity for a maximum of 35 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Course completion is required for CME credit.

INSTRUCTOR is Franklin Dexter, MD, PhD, Professor, University of Iowa.

FILL IN THE PDF REGISTRATION FORM AND E-MAIL TO:

Franklin-Dexter@UIowa.edu

COURSE FEE: \$2000

There is a \$250 fee for cancellation up to 8 weeks before the course starts, \$750 up to 3 weeks before the course, and \$1500 afterwards.

Payment by bank wiring or US credit card is available with the non-refundable bank fee.

SEND CHECK PAYABLE TO: The University of Iowa

MAIL TO: Franklin Dexter
Department of Anesthesia
Division of Management Consulting
University of Iowa
200 Hawkins Drive, 6JCP
Iowa City, IA 52242

Internet requirement is sufficient speed for live video conferencing. Hardware requirements include webcam and audio headset with microphone. Software requirements are Google Chrome, desktop version of Microsoft Excel, and ability to access Zoom desktop client or web client.

The University of Iowa Roy J. and Lucille A. Carver College of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

INSTRUCTOR is Franklin Dexter, MD, PhD, Professor, University of Iowa.

FILL IN THE ADOBE PDF REGISTRATION FORM AND E-MAIL TO:

Franklin-Dexter@UIowa.edu

COURSE FEE: \$2000, includes lunches & afternoon breaks

There is a \$250 fee for cancellation up to 8 weeks before the course starts, \$750 up to 3 weeks before the course, and \$1500 afterwards.

Payment by bank wiring or US credit card is available with the non-refundable bank fee.

SEND CHECK PAYABLE TO: The University of Iowa

MAIL TO: Franklin Dexter
Department of Anesthesia
Division of Management Consulting
University of Iowa
200 Hawkins Drive, 6JCP
Iowa City, IA 52242

The course site is the Hampton Inn Coralville Iowa, 1200 First Avenue, Coralville, IA 52241. For accommodations, call 319-351-6600 and use the “Operations Research” group rate of \$99.00 plus tax. The Eastern Iowa Airport (CID) is located 30 minutes from Iowa City (Coralville).

For travel questions, e-mail Franklin-Dexter@UIowa.edu.

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REGISTRATION FORM

COURSE DATES: _____

First Name: _____ Last Name: _____ Degree(s): _____

Title: _____

Organization: _____

Mailing Address: _____

City: _____ State (Province) _____ Postal Code: _____

Mobile Phone during course: _____ E-mail (write clearly): _____

How did you hear about the course? _____

Please answer the following questions to assist in course planning:

Confirm requirement of computer with Google Chrome and desktop version of Microsoft Excel	YES	NO
Have you ever participated in the decision to move a surgical case from one OR to another?	YES	NO
Have you ever participated in a decision influencing physician recruitment?	YES	NO
Have you ever performed linear programming, used Monte-Carlo simulation such as @Risk or Crystal Ball, or created a quality control chart with limit lines?	YES	NO
Have you ever studied statistics more advanced than the prerequisite knowledge?	YES	NO

Material on which questions are based: Dexter F, Masursky D, Wachtel RE, Nussmeier NA. [Application of an online reference for reviewing basic statistical principles of operating room management](#). American Statistical Association: Journal of Statistics Education 18(3), 2010

The course can be hosted by a hospital or other facility for up to 4 teams (i.e., 12 participants). Download www.FranklinDexter.net/Contracts/ContractHourly.docx. Budget 3.5 days for the course, 0.5 day for preparation, and 1 day for travel to/from the site, total \$12,500 plus Dr. Dexter's travel expenses. Detailed specifications are sent for the room's setup, computer and projector requirements, etc., to be arranged by the host. For presentation using University of Iowa hosted Zoom web conference instead of on-site (e.g., during 2 successive weekends or 1 weekend and 3 evenings), exclude travel (i.e., total \$10,000). [Click here](#) for that and multiple other course alternatives.